Gleanings in Bee Culture

VOL. XXXVIII JULY 15, 1910 NO. 14

A New Bee-book!

WE ARE fortunate in securing from the publishers just at this season a new book on bee culture, entitled "How to Keep Bees for Profit." It covers a field quite new in that it gives information to beginner and experienced bee-keeper alike, and covers all conditions, for the man who keeps but a colony or two in his back yard, and the one who numbers his colonies by the hundred and has outyards. A list of the phases of the subject covered will give you an idea of the real value of the book. They are as follows:

The book is so arranged that one may refer to the particular subject wanted without reading a lot of matter in which he has no immediate interest. The author is a practical bee-keeper, and writes in a simple manner which can not but be understood by the veriest novice, and is at the same time a convincing argument for the more advanced bee-keeper. The book contains 325 pages, and is fully illustrated by engravings which show details of the work at every step. No bee-keeper's library is complete without this book. Sold only in connection with a year's subscription to GLEANINGS IN BEE CULTURE. $1.50 for the combination. If you are already a subscriber we will advance your subscription a year and send the book at once on receipt of the price. Get it NOW so that you may profit by its teachings this season.

THE A. I. ROOT CO., Medina, Ohio:

For the enclosed $1.50 please send me at once one copy of HOW TO KEEP BEES FOR PROFIT, and enter my name for a year's subscription to GLEANINGS IN BEE CULTURE.

Name.....

Address.....

Town..... State.....

Gleanings in Bee Culture

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Editorial

Word has just been received from General Manager N. E. France, that the next Convention of the National Bee-keepers' Association will be held in the Common Council Chamber of the City Hall, Albany, N. Y., October 12 and 13. We presume that full particulars will be forthcoming later, including the program, etc.

FIRE LOSS.

Mr. F. J. Strittmatter, of Ebensburg, Pa., was burned out of house and home, including his bee-supply house. The loss was between $5000 and $6000, about half covered with insurance. Included in the list was about 6000 pounds of honey and his honey-melting and bottling outfit. His stationery, ledger, correspondence, and desk were also burned. He desires us to make mention of this so that his customers may enable him to straighten out his records.

TWO BULLETINS ON BEES FROM THE GOVERNMENT.

The United States Department of Agriculture has issued Farmers' Bulletin No. 397, entitled "Bees," by Dr. E. F. Phillips, in Charge of Bee Culture in the Bureau of Entomology. This bulletin contains nearly 50 pages of live helpful matter on the care and management of bees. It takes up the following subjects: Location of an Apiary; Equipment and Apparatus; Equipment in Bees; Bee Behavior; Directions for General Manipulations; Transferring; Uniting; Robbing; Feeding; Spring Management; Swarm Management; Preparations for Harvest; Honey Production; Production of Wax; Wintering; and last, but not least, Diseases of Bees. On this latter subject Dr. Phillips is probably our best authority now in the United States. He has traveled over all the country, and knows more about the location of disease than perhaps any other person.

This bulletin is for free distribution, and may be obtained by addressing a postal card to the Secretary of Agriculture, Washington, D. C. Ask for Farmers' Bulletin No. 397, entitled "Bees," by Dr. E. F. Phillips.

The Anatomy of the Bee is the subject of another bulletin, Technical Series No. 18, of the United States Department of Agriculture, Bureau of Entomology, by R. E. Snodgrass. This is probably the most comprehensive work, going into the general anatomical structure of the bee, that was ever published. Mr. Snodgrass, besides having the work of all the other scientists before him, has done a prodigious amount of original work in dissecting the honey-bee. While this bulletin may be too technical for the average bee-keeper, yet there is a large number among our ranks who enjoy going into the science of these things. It contains 160 pages, and it can be secured by sending 20 cts., addressing the Secretary of Agriculture, Washington, D. C.

THE PART THAT THE BEES PLAY IN FERTILIZING APPLE-BLOSSOMS.

One of our subscribers, Mr. J. A. Yeomans, of Spokane, Wash., recently made a trip to Wenachee, Wash., talking bees to the orchard men of that district. An investigation was made at the request of one of the leading citizens of the town, who was largely interested in orchards, Mr. R. E. Trumble, Professor of Horticulture in the High School, having charge of the work. His conclusions as given in the newspapers are of great interest to bee-keepers. The report in abbreviated form follows.

The apple-blossom drop is due largely to three causes: First, many of the young terminal shoots set fruit this year. This is unusual; and where it happens, most of the blossoms normally fall from these young shoots.

Second, unfavorable wind conditions during the blossoming period reduced the wind pollination to a minimum.

Third, we have very inadequate bee pollination in this valley, because we have very few bees compared with the great number of trees to be cross-pollinated. When going through the orchards during the blossoming time I have found only two or three bees in a five-acre orchard. While there are over 68 different insects that cross-pollinate apples, these insects are not here in numbers great enough to cross-pollinate the great number of bearing trees we have. Another thing that made bee-pollination difficult this spring was the fact that all the varieties of apples bloomed so nearly at the same time. This was unusual, ordinarily there being considerable variation in the time of blooming among the varieties and even among the blossoms of the same kind of varieties.

Counts were made of three varieties of ap-

ple-trees near bee-hives (30 to 100 yards). For comparison, counts were also made on the same varieties of trees where no bee-hives were near, to determine the percentage of blossoms and fruit-spurs that failed to set fruit, and the number that set fruit with and without bees. Only spurs that bore blossoms this year were counted.

It was found that, where the bees were near, only 7 per cent of the fruit-spurs failed, on the average; while where there were no bees 49 per cent of the fruit spurs that normally set three or four apples failed. These did not set a single apple.

Mr. Trumble summarizes his investigation as follows: "Our conclusion is that, to prevent such difficulties in the future, we must get bees. The common honey-bees are the best insect pollinators on earth. They come out earlier in the spring, stay out later in the fall; begin earlier in the morning, and work later in the evening; and they will work under more unfavorable weather conditions than any other insect. From my work with bees I have calculated that a single honey-bee is capable of cross-pollinating over 16,000 apple-blossoms in a day; but during the blossoming period there are so many blossoms that the bees do not go far from the hives, so we need hives all over the orchards."

AUTOMATIC CAN-FILLERS.

Our readers will recall a number of inventions that have been described and illustrated for the purpose of automatically shutting the honey-gate when a five-gallon can is full, thus making it unnecessary for one to stand and watch to prevent the honey from running over on the floor. Mr. Hutchinson has very successfully used an electric bell that would ring when the can was nearly full, so that he could come and shut off the stream at the proper time. The other inventions have provided means for automatically shutting the gate at the proper moment.

The great trouble with electrical devices in affairs of this kind is that points are likely to corrode so that poor contact is made and the warning is not given. The mechanical devices for shutting the gate, in our opinion, have been entirely too complicated to be practical for the average bee-keeper.

Mr. W. C. Evans, of Fort Collins, Colo., has invented an automatic filler which is ahead of any thing we have ever seen, and is so simple that there is practically nothing to it. The great wonder is that no one thought of it before. *The stream of honey is not shut off at all;* but when one five-gallon can is full the honey is automatically directed to another can standing alongside. Faster work is done, and there is absolutely no danger of honey being spilled over on the floor; for after the first can is full, and the honey is filling the second can, this first can may be removed and a third one put in its place, so that, when the second can is full, the stream will be turned again into the third can. We hope to show illustrations and give a full description of the outfit in our next issue.

HONEY REPORTS.

In our last issue, page 402, we inserted the following set of questions, to which we desired our readers to respond by postal card:

1. Condition of bees?
2. Climatic conditions (favorable or not)?
3. Are bee-men suffering from drouth or wet weather?
4. Prospects for honey crop?
5. Compare prospects with last year, same date.
6. Percentage of full crop harvested to date?
7. Compare yield with last year, same date.
8. Kind of honey produced in your locality, comb or extracted?
9. Color of honey produced this year?
10. Price local dealers are paying for honey?
11. Price bee-men are holding for?
12. Is the crop moving readily?

It is a little early yet to get returns, and we have therefore received at this date only a comparatively few cards; but they will give us some idea of what is doing in several of the near-by States. The responses are by number, and, of course, correspond to the numbered questions above.

Bees are doing finely now, having a good flow of honey from white clover.
Ticonderoga, N. Y., July 11. G. H. Adkins.

The honey-flow seems to be unusually short in Florida this year.
Bradentown, Fla., July 5. E. B. Rood.

The prospect for a crop of honey is not as good as last year. It is too dry.
Wolverine, Mich., July 9. L. K. Feick.

Perhaps you would like to know that the clover honey crop is good here in Southeast Pennsylvania.
Royersford, Pa., July 1. W. E. Peterman.

1, poor to good; 2, too wet; 3, wet weather; 4, not very good; 5, 50 per cent; 6, nothing; 7, same; 8, extracted; 9, white.
Dry Fork, W. Va., July 8. E. C. Mersing.

Report of crop up to July 8. Bees have scarcely whitened the combs in my vicinity. 1, fair; 2, no; 3, drouth; 4, very poor; 7, not a pound.
Mancelona, Mich., July 7. S. D. Chapman.

No rain in June to speak of, and none in sight yet here: dry as ashes, and forest fires around. Only one-third honey-crop if fall flow should not prove something unusual.
Wausau, Wis., July 7. G. A. Lunde.

1, good; 2, bad till June 27; 3, wet; 4, can't tell about the fall crop; 5, equally bad; 6, none at all; bad; 7, equally bad; 8, comb; 9, none produced; 10 and 11, don't know; 12, there is no crop to move.
Norwood, Pa., July 4. Rev. R. B. Green.

1, fair; 2, favorable; 3, neither since June 15; 4, fair; 5, better than last year at same date; 6, none; 7, better flow than same date last year; 8, both; most comb; 9, white flow now on; 10, none on market. Rea Bee & Honey Co.
Reynoldsville, Pa., July 7.

I hived a swarm of bees on June 22, and by June 25 they had drawn comb in eight Hoffman frames, and filled them with honey. Can you beat that? I never saw any thing like it.
Bay City, Mich., June 26. Wm. E. DeCourcy.

1, Good; 2, favorable; 3, neither; 4, fairly good; 5, better; 6, 50 per cent or a little better; 7, much better; 8, mostly comb; 9, white, mixed with light amber; 10, 15 to 16; 11, most is sold direct; 12, yes.
Lititz, Pa., July 6. Snavely Bros.

Thirty days of fine weather with heavy flow of nectar; 150 lbs. to colony already secured; same condition in Missouri, Kansas, and throughout this State.
Humboldt, Neb., July 4. J. L. Gandy.

Bees are doing well.
Syracuse, N. Y., July 9. THE A. I. ROOT CO.

1, good; 2, favorable; 3, a little dry; 4, no better in twenty years; white clover; 5, no good last year; 6, some 100 lbs. to colony; 8, about one-half comb; 9, white clover fine; 11, 10 cts. extracted, 15 cts. comb; 12, yes.
Shenandoah, Iowa, June 11. O. H. HYATT.

1, fair; 2, too dry; 3, from drouth; 4, below average; 5, about the same; 6, 35 per cent; 7, 75 per cent; 8, mostly comb; 9, nearly white; 10, comb, 14 to 15; 8½ for extracted; 11, comb, 14 to 15; 8½ for extracted; 12, too early to tell.
Flat Rock, Mich., July 11. D. I. WAGAR.

The prospects for a honey crop in this locality are certainly very discouraging. While a part of the State will have some kind of a crop, the chances are that this locality will have but a very small part.
THE COLORADO HONEY-PRODUCERS' ASS'N.
Denver, Col., July 6.

No. 1. Bees in good condition; 2, unfavorable; 3 drouth; 4, one-fourth crop; 5, about the same, barring honey-dew; 6, none; 75 lbs. from 170 colonies up to date; 7, about the same; 8, comb; 9, white; no honey-dew to date; 10, 12½ cts.; 11, not any thing to hold; 12, don't seem to. G. B. TACCABERRY.
Cantul, Iowa.

Central Vermont.—1, good; 2, all kinds, hot and wet; 3, thunder showers frequent; 4, good average; 5, all better; 6, fair crop on hives; 7, no surplus last year; 8, comb, some both; 9, good white; 10, none on market; 11, comb 16, extracted 12 cts.; 12, none moved yet. Bees nearly starved to June 15. Scale hive up to 11 lbs. net, one day.
Barre, Vt., July 4. H. WILLIAM SCOTT.

1, below the average; 2, very unfavorable; 3, extreme drouth; 4, poorest in years; 5, not as good; 6, of comb, about ⅔ per cent; 7, less than half crop; 8, both; 9, water-white; 10, no market established; 11, extracted fancy comb, 18 to 20; 12, none sold yet. Basswood will bloom in a few days; but a part of the trees show no indications of blooming. It did not bloom here last year.
Chatfield, Minn., July 8. JOHN J. KADLETZ.

The bees are doing excellent work since the warm weather has come. A good new swarm filled a common-sized hive for me in about five days when I put a super on, and they will have the sections full in a couple of days more. The white clover was a big crop until the hot dry weather came, which is drying it up fast. We have had but one good rain in the past for weeks, and that was the 26th of June.
Quasqueton, Iowa, July 8. A. D. STONEMAN.

My report for honey prospects so far: 1, condition of bees, poor; 2, climatic conditions, very bad till June 7; 3, getting drouthy; 4, rather poor; 5, not so good as last year; 6, more; 7, less than last year; 8, comb; 9, white; 10, 11, and 12, no information. The bad weather of the last part of May and the first week of June, when the bees pulled out their drones, and in some cases worker brood, gave honey prospects a black eye.
Lapeer, Mich., July 5. R. L. TAYLOR.

In the meantime we wish our readers everywhere *to keep on sending in their responses to this same set of questions.* Conditions are changing so rapidly now, that before we can determine what the honey market is or will be we shall have to know something of crop conditions. To that end we respectfully request that the actual facts be given as nearly as may be. A suppression of the fact that a honey crop has been secured will defeat its object later on by a slump in the market in that locality. Better by far let the facts be known just as they are.

TELEGRAPHIC REPORTS OF HONEY-CROP CONDITIONS.

We sent the following letter on Monday, the 11th, to various parties in the several States:

Dear Sir:—For the purpose of publication just as the last form of the journal goes to press I wish that you would wire us a night letter of 50 words giving prospects of a honey crop, based on the reports that have come into your office, and on your own observations from local reports in your vicinity. I wish you would also call up the local market and ascertain whether there is any honey on the market; if so, what prices are ruling? Prepare the night letter as soon as you get this letter, and send it to the Western Union office marked "night letter," when it will come on as soon as it can go.
E. R. ROOT, Ed. of GLEANINGS.

The following are the replies received just as we go to press:

Very poor crop. THE A. I. ROOT CO.
Washington, D. C., July 12.

General reports from one-third to one-half crop.
Platteville, Wis., July 12. N. E. FRANCE.

I can not see more than half a crop. Drouth has cut clover and basswood short; no honey to ship.
Fremont, Mich., July 12. GEO. E. HILTON.

Iowa honey crop is reported a little below the average. Pretty dry now.
Des Moines, July 13. THE A. I. ROOT CO.

Fair to medium crop in this vicinity; prices probably higher.
New York, July 13. THE A. I. ROOT CO.

Abundant clover, but cold rains prevented bees gathering. Twenty per cent average.
Philadelphia, July 13. WM. A. SELSER.

The honey crop in Western Vermont will be very large—one of our best years. The crop in Eastern and Central Massachusetts will be light.
Middlebury, Vt., July 12. J. E. CRANE.

The majority of our customers in Missouri, Arkansas, and Southern States report a very light crop—below that of last season. Bees are working fairly well now, and prospects are better for a fall crop. Honey is considered of good grade.
BLANKE & HAUKE SUPPLY CO.
St. Louis, Mo., July 12.

We estimate about half a crop for Michigan. Some localities are especially favored; other sections are the worst in years. The quality of honey is good. A general rain in the next few days would continue the clover flow and change the above report for the better. No reports of honey-dew.
Lansing, Mich., July 12. M. H. HUNT & SON.

The honey crop in Indiana is about the average in quantity and quality. The central and northern parts of the State have the best crop that has been taken for years; but the southern part of the State has not done so well. The season is extending far into July, and fall prospects are excellent. Very little new honey is on the market, and prices for the new crop are not yet established.
Indianapolis, Ind., July 12. W. S. POUDER.

The supply business with me this season is almost a failure. Conditions are the worst I have ever known. While there is clover in abundance, for some reason it is not yielding the nectar it should. If the crop of honey hereabout amounts to half of a normal yield I shall be surprised. There has been practically no sale for hives, and the demand for sections and foundation is very light. I understand there has been an almost unprecedented honey-flow in Indiana. It has certainly sidestepped Ohio if my trade is any indication.
Zanesville, Ohio, July 11. E. W. PEIRCE.

Reports early in the season were very discouraging. However, for the past three or four weeks we have had some very favorable reports which lead us to believe that the honey crop for the central West will be about an average one. Last night I rode home with Mr. York, and he told me that a letter from Mr. France yesterday informed him he had already harvested a crop of 30,000 lbs. Orders for shipping-cases have been coming in quite fast for the past few days. This would also indicate that there is honey in sight. THE A. I. ROOT CO.,
Chicago, July 12. per R. W. B.

We hope to present the facts as accurately as possible, and to this end again urge our readers to co-operate by sending comprehensive but brief reports. The sooner the actual conditions can be known, the better.

Stray Straws

By DR. C. C. MILLER, Marengo, Ill.

MORE THAN ONE egg in a queen-cell is a sign of laying workers; but this year a queen-right colony had two queen-cells, side by side, with two eggs in each.

JUNE 8, bees were at the point of starvation; June 22, there were 259 supers (some of them empty) on 109 hives; and June 29, there had been taken from the hives 32 finished supers of 24 sections each.

"NEVER ALLOW bees to hang outside the hive." That's the advice given in one of the best books published. Isn't that "never" rather sweeping? On a hot night after a hard day's work, or even in a hot day at close of harvest, I would not feel hard toward a strong colony if it should want to get outside where it's cooler.

REFERRING to page 428, if I should put an empty super under a brood-nest my bees would surely build down. When I used a false bottom with a space of 1¼ inches under it, the bees filled the space with comb, and they will build down more promptly in an open space. But Mr. Lemon can safely put an empty super under if he puts two or three bottom-racks in it.

THE SWARMING referred to by O. E. Buchanan, page 426, is *after-swarming*. Piping and quahking may always be heard the evening before an after-swarm issues, sometimes longer before — no piping before a prime swarm. H. E. Harrington, page 425, says piping may be heard "about four or five days after the first swarm has issued." It is generally about three days later than that.

HENRY STEWART'S article, p. 415, is all right for European foul brood; but the heading and the first word of the article says "American." If he really means American foul brood he is butting up square against Alexander, and I guess everybody else. [Mr. Stewart seems to be describing American foul brood, and we have been informed that there is no European foul brood in his vicinity, hence the heading of his article. Explain how he is square up against Alexander.—ED.]

LINK BY LINK cold business sense is helping to forge the chain to bind King Alcohol. At a recent examination for public chauffeurs in the city of Chicago, "those taking the tests were forced, under the new law, to swear they would not touch intoxicating liquors while on duty, agreeing that their license be taken from them if they are detected with the odor of liquor on their breath, and they be barred from ever again driving a public automobile in Chicago." [But is he as good a chauffeur *on* duty, if he drinks when off, as he would be if always unalcoholized?—ED.]

MORE AND MORE I like the idea of having an empty super on top. It serves as a safety-valve, so that, if the bees are at any time crowded for room, they may begin work above. If they don't need the room, it does no harm. Next time around it can be put down next the brood, and another empty put on top. [This idea of putting an empty super on top, whether the bees need it or not, is excellent, especially in a season like this. This is a subject well worth discussing.—ED.]

F. J. ROOT, page 410, talks sensibly about advertising, and then asks, "*What are you going to do* about it?" Nothing, my dear fellow; not a thing. At least if one may judge from the past. More's the pity! [It is indeed true that the bee-keeping public have not put enough emphasis upon the selling end of the business. The editor of the *Review* has recently started out on this campaign. We shall be very glad to welcome more articles on how to dispose of the crop after we once get it. Apparently for this season we are going to get a crop, and some bee-keepers are going to have difficulty in selling at good prices.—ED.]

THE QUESTION as to the sex of eggs laid by the queen is up again in *L'Apiculteur*, among the theories being the one that all eggs are alike, and the workers have the power to settle the sex. One of the things cited to support that belief is that workers are sometimes reared in drone-cells. The thing that surprises me is that it seems to have escaped these observers entirely that no worker is ever reared in an *unmodified* drone-cell. I've seen workers reared in drone-cells a number of times; but before the queen laid in them the workers always contracted the entrances of the cells to make them the size of worker-cells. Are my bees the only ones that do this?

FORMERLY I allowed about ½-inch ventilation under the super at the back of the hive. It helped, I think, to prevent swarming; but the bees were slow about sealing the sections next the opening. Then I allowed a crack just large enough for only one bee to crawl through. Sometimes (I think in a full flow) the ventilation did not seem to hinder sealing; sometimes (I think in a slow flow or cool weather) it hindered. But this year the sections next the opening are finished before those at the other end of the super! Perhaps because it is very hot. I think this opening at the upper back end of the hive much more effective in keeping down swarming than three times the opening at the bottom, as it allows ventilation clear through the brood-chamber. But even with ventilation at both places I have more swarming than I like. [You say that you think that ventilation at the upper back end of the hive much more effective in keeping down swarming than three times the opening at the bottom. This is a rather interesting question, and we hope our subscribers will discuss it, especially those who have tried ventilation at the top.—ED.]

Bee-keeping in the Southwest

By Louis Scholl, New Braunfels, Texas

Shallow-frame hives, or, rather, divisible-brood-chamber hives, are bound to become the standard for best all-around results after awhile; and the ten-frame width. Their advantages are too great not to be found out.

Our experimental queen-rearing yard, to determine whether it is profitable for the honey-producer to rear his own queens, is showing some favorable results in the very fine, large, and prolific queens we have turned out for our apiaries so far; and as we get it better established with all the necessary equipment, and running on a proper schedule, I think it will prove that it is profitable for us to rear our own queens.

Seeing those various contraptions and many different ways of wiring frames, pp. 232 to 234, reminds us of the slow, tedious, and disagreeable work we detested years ago when we had only deep frames which had to be strung with wire. Why not use shallow frames without wires? That is what we have done for years. It saves wire and time, and other extra expense, and still lighter foundation can be used. The time will come when the shallow frame and divisible hives will become standard.

CHUNK OR BULK COMB HONEY.

Enquiries have been sent me several times relative to chunk honey, and I have been requested to write an article on that subject, covering all the different phases of production, etc. To this I must say that it would be utterly impossible to do it in one or even two articles, even if I had the time during this present, my busiest season of my life. A little later, perhaps, this may be possible. I write this to answer several enquirers so they will not await the article and become disappointed. Besides, I should like to call attention again to the fact that we do not fancy the term "chunk honey" in the place of "bulk comb honey." Since this should be the proper name to use, I mention it again. Most of the correspondents use the term "chunk honey."

AN ABSURD ACCUSATION.

Of all the absurd articles, none has come up to the one on page 376, under the title of "Chunk Honey North and South." It can hardly be attributed to the ignorance of the author of said article, since he comes out boldly with the statement that he has "traveled to no small extent in the Lone Star State, the last time about three years ago." However, his opinion of Texas is a very poor one indeed. The idea of the comparison made between the State of Texas and her people and other conditions with that of a little part of the country that he resides in is also absurd. Why! we have enough fertile country in Texas to cover up Iowa nearly five times over, and then have a good deal of this fertile land left, to say nothing of the enormous quantities of rock, gravel, sand, etc., which are all considered by us as of much value, if for nothing else than the up-to-date construction of concrete structures and buildings on the vast areas of the most fertile soils.

Not only is Texas richest in a great majority of just such things, and ahead of all her sister States, but her people are not so poor as the writer above mentioned tries to make them. If anybody doubts this let him come and assure himself. We are not so poor down here that we are not buying automobiles, diamonds, etc.; but when it comes to section honey we go further with our delicious *bulk* comb honey; and since we are rich enough to buy honey we are able to use up our own enormous annual production long before the season is over, although the great Lone Star State is the greatest producer, and that at a higher average price per pound than is obtained in the North, and this in spite of the scanty population and the very poor (?) people at that. Can you blame the "over-enthusiastic Tehana friend" for believing that it is possible to do even better with bulk comb honey in the North?

Our prices are so high here in Texas that 38 cents for a quart Mason fruit-jar of bulk comb honey would be considered a very low price, or one which only the backwood farmer bee-keeper "who never reads a bee-journal" would sell at. Fifty and sixty cents is what we find them selling at, and such figuring as allowing so much for the return of the jars, yea, and "at a cent less on account of the loss of the rubber" is a thing unheard of. Besides, we use better packages for our bulk comb honey than the distasteful common Mason jars, and get a more fancy price.

Still better are the Texas standard sizes and styles of honey-cans and honey-pails (also our own) for bulk comb honey. The 3-lb., 6-lb., and 12-lb. friction-top cans and pails are the most preferable package for the retail trade, and others too, while the consumers prefer to buy the 60-lb. cans from us direct; and we get 11 cents per lb. for this in 120-lb. cases or more, f. o. b. our shipping-point, sight draft attached to bill of lading, insuring our pay for the honey in all cases. The smaller size of cans in case lots sell from 2 to 3 cents per pound more. Add to this the freight to the retailer, his profit, and then you will find that we do not sell our honey at a low price. The average selling price is about 15 cents, and, besides, selling our own millions of pounds here in the great Lone Star State, carloads of honey are shipped in from other States. Does this show that we are a poor class of people down here? Not much!

Siftings

By J. E. CRANE, Middlebury, Vt.

The steam uncapping-knife appears to be one of those improvements that do not need to be improved upon before it becomes practical. See page 185, March 15.

On page 224, April 1, is a map of Texas with more than a dozen other States just thrown right into it. But isn't it a whopper, a regular Jumbo? It produces some big men, too, to say nothing of large bee-keepers.

My congratulations to L. F. Howden with his motorcycle, p. 187, Mar. 15. There must be quite a difference between going ten miles in fifteen or twenty minutes, and plodding for two hours, as we do with our slow horse to a yard ten miles away.

I notice on p. 243, April 15, Prof. Waugh is quoted on spraying. He was for several years professor of horticulture at the Vermont Agricultural College, and certainly is good authority on fruits, and has always been the friend of the bees.

I have always been surprised at the large numbers of colonies reported to the square mile in Germany. Explanation given in a Straw on page 172 will help us out. An average of 2.86 colonies to the mile isn't so great—guess we can match it here in places.

That Stray Straw, with note on keeping honey in a warm place, can not be too often repeated until we all know enough to keep comb honey in a warm place. Honey will not only not granulate in such places, but "resist the effects of changing temperatures better." It will also improve in flavor instead of deteriorating.

That is a capital idea, Mr. Editor, p. 242, of having all hives ten frame, and then change the capacity by the depth of frame. After more than forty years' experience I am satisfied that the ten-frame can not be improved upon for the average location. If I were starting anew I would use a ten-frame hive, using a division-board, and reducing to seven or eight for winter.

Another article is by E. R. Root, on the agency of bees in fertilizing plants by the mingling of pollen. Too much can not be said in praise of this article with its illuminating illustrations. Well says Dr. Fletcher, "A study of the devices provided by nature to insure cross-fertilization forms one of the most charming branches of the whole study of botany." If this article is a fair sample of the forthcoming edition of the A B C and X Y Z of Bee Culture, it may well stand at the head of all "bee-books," as, indeed, I have for some time regarded the last edition.

F. Greiner objects, page 181, Mar. 15th issue, to paying 25 cents for 4 oz. of honey by travelers. I think it is no higher than other items of the bills of fare on dining-cars. I recently ordered at a large hotel a small piece of fish, surely not over a third or half a pound, and the price charged was 50 cents. The cost to the house could not have been over six or eight cents. Oh! I forgot. There was, perhaps, one or two ounces of bread with it.

Several scientific articles appeared in the April numbers of GLEANINGS that call for notice as of more than usual interest, especially those discussing the pollination of apple and other blossoms. First, that by Prof. C. L. Lewis and C. C. Vincent, on the pollination of apple-blossms, so fully illustrated that any farmer's boy of fair ability can engage in the fascinating pursuit of producing new varieties of fruits. I can not tell how much I should have enjoyed such an article when I was young or after I learned that different varieties of corn would cross when planted near each other.

I fear there may be some disappointment in working the theory of preventing honey from granulating by sunlight. Our own experience has led us to believe that sunlight helps to *hasten* granulation. We had occasion some time ago to open a case of 24 pound bottles of honey that had been put up some three or four years; and while some showed considerable granulation, most of them showed very little. I feel sure if they had been exposed to the light they would have been all solid. We prefer to bring clover honey to 160°, raspberry honey to not over 150°, bottle at once, and pack in cases with corrugated-paper fillers, and let it cool very slowly. Not only will frequent changes of temperature hasten granulation, but I believe a sudden change much worse than a slow change of temperature.

Mr. Edward Diener, page 249, discusses the retail problem interestingly, and also refers to the economic problem that is troubling the country so seriously while everybody is pointing the finger at some one else as the cause. Especially are the trusts blamed, and yet sugar is cheaper than before the sugar trusts were in existence. Kerosene is much less than before the Standard Oil Co. Tin cans that would cost $45.00 per 1000 before the manufacturers went into the trust we have bought of that "trust" for $29.50. Fifty years ago, farm laborers worked thirteen or fourteen hours, while now they think themselves abused if asked to work more than ten hours. The same reduction is found in other pursuits, while the laborer

wants a larger price per day for fewer hours. As labor is a very large factor in the cost of all useful products, has not the increased cost of labor been a large factor in the increased cost of living?

Virgil Weaver appears to be the honey prophet of the country, and he has had pretty fair sailing so far. Now it seems to me that it does not require a great amount of foreknowledge to say that we shall get a good crop after a very poor season, or that we are likely to get a poor crop after a very large one. Moses Quinby used to say that a poor season was likely to follow when bees had wintered unusually well; but I believe his observations were founded on the fact that bees winter better than the average years after a good season, and badly after a poor season. Now we are confronted by an unusual condition this spring. Bees have generally wintered unusually well following a very poor season. Clover is looking well, and I think we may at least hope for a good year.

Dr. Miller, page 208, April 1, says I'm naughty trying to drive him out of business by advising one to locate where stones are not necessary to keep covers from blowing off. Say, doctor, I didn't mean that. I just meant if you can't find such a place just make it. Plant a row (or, if very windy, two rows) of evergreens on the windy sides of your yard, and then there will be no need of stones on top of your hives. It's "awful" windy where my own home is; but an evergreen hedge on three sides of my bee-yard makes it warm and quiet. I moved a yard of bees last winter just to get out of the wind, and the new yard is surrounded by hills and forests; and when the cold north winds blew in April it was as warm in there as June. Oh, my! but wasn't it nice? and the 16th of May that yard threw off four good swarms—the earliest I have ever had bees swarm, just to show their appreciation of their new yard, and, perhaps, to celebrate my seventieth birthday.

The grouping of hives, given by the editor, page 206, April 1, is one of the best. I add to it, however, by making each group ten, and face them to all points of the compass, which works well where the yard is free from heavy winds. I moved a yard last winter, and, as a sort of experiment, set it in rows. There were 120 hives, about 75 containing bees. They were set in six rows, the rows a rod apart, and eight rods long, twenty in a row, and — well, it would puzzle an experienced bee-man to tell which hives contained the bees by the number of bees flying out and in the entrances. Indeed, there were more at the entrances of some of the empty hives than those containing combs of brood and honey. Opening some of these empty hives we find dead bees and others bewildered and lost, and ready to give up. I have now painted the hive-fronts all sorts of color schemes, and set out small trees and shrubs, but without much improvement.

WHY SOME REPORT BREAKAGE FROM THE CORRUGATED SHIPPING-CASES.

Our friend Louis H. Scholl, page 174, Mar. 15th issue, cautions bee-keepers about the use of corrugated-paper shipping-cases, evidently from good motives; but his advice somehow seems a little defective. If anxious to save inexperienced bee-keepers from loss, why does he not discourage shipping by express, which is much more certain to give broken combs than when shipped by freight? I don't know much about the freight business in the West; but Mr. Foster, of Colorado, complains of a great deal of breakage, even when shipped by freight, although he says, page 138, Mar. 1st issue, that the strawboard case will stand rougher treatment than the wood case. Would it not be a good thing to say to those who, in the West, get their honey broken, that it is safer to ship by freight than express? and, secondly, if broken when sent by freight, to pack in carriers holding 150 to 200 lbs., with hay or straw in the bottom? If this way is not an entire success, I will tell you what to do. Make a strong box that will hold, say, 20 or 25 cases, 400 or 500 lbs., of honey. The shape should be such that your cases will just fit in nicely. Nail some strong cleats on each end on the bottom, and on to these fasten four strong casters, one at each corner, with strong screws. Such a box or carrier, freight-handlers or truckmen can not or will not lift, and, of course, can not throw, but will roll along on the floor or platform of the railway stations. I have shipped in this way small lots of honey for hundreds—yes, thousands—of miles, without breakage. On page 169, Mar. 15th issue, the editor suggests that the reason we have had as good success in the use of paper cases might be that we use a paper carton on each section. I have sometimes wondered myself if that had not something to do with it; but I think now not much, as we have used cartons on our sections for fifteen or twenty years, and dealers recognized very quickly the better condition of honey in the paper cases as soon as used. But how did those two cases reported by Mr. Scholl get used up worse than the wooden ones? "I don't know." Perhaps in this way: About eighteen months ago I went to the capital of our State to see what could be done to secure a foul-brood law. While waiting at the station for my train to return, another train pulled in, and I watched the expressman unload his express. Presently the conductor came round and said, "Hurry up, there; don't stop to read everything. We want to get to Williamstown by" such a time; and then the way the express came out was a caution, some of it landing on top of the truck standing on the platform by the car-door, and some of it not stopping until it struck the ground six or eight feet below.

Conversations with Doolittle

At Borodino

CROSS BEES.

My bees, since the harvest of white honey ended, are cross and ugly. What can the matter be?

Perhaps you have allowed them to have access to stolen sweets, so that they got to robbing. If you want to make bees very cross, let them have access to honey from other hives while you are at work in the apiary till they get to fighting, and finally to robbing some of the weaker colonies; or let them get into the honey-house and get started there on your new honey, and you will be sure to have a row.

We once stored our section honey in a room just off the sitting-room. The door to the one in which the honey was stored was supposed to be kept shut, and the windows in the sitting-room were kept darkened to keep out the flies at all times when we did not occupy this room. The window of the room in which the honey was stored was also made dark by shutting the blinds, for the same reason. One Sunday morning, just before going to church, I went into the honey-room for something, and in my hurry left the door open when I came out. While I was hitching up the horse Mrs. Doolittle went into the sitting-room, leaving the door open while in there for light. This was at a time of a great dearth of nectar, a few days after the basswood harvest closed. Probably a bee or two came into the sitting-room while she was there, having smelled the newly stored honey in the room; and as I had left the honey-room door open, of course they found where the stored sweets were. As we drove into the yard after church we were greeted by angry bees, and I had difficulty in getting the horse into the barn. By covering our heads with bags from the barn we found our way to the house, and were glad to get inside the kitchen. By peering through one of the kitchen windows I discovered that the bottom of the sitting-room door, and nearly half way up the front, was covered with bees fighting to get in, while there were hundreds taking wing, all the while carrying off the honey. Around on the opposite side of the house was another door not often used, which led into an unused hallway. I again covered my head, went to this door, unlocked it, and went in. Arriving at the sitting-room, for a moment I could see nothing on account of the dark, but presently, as my eyes became accustomed to this I discerned that there was a crack under the bottom of the sitting-room door, large enough to admit a bee the whole width of the doorway. As my eyes became still more accustomed to the dim light I discovered a stream of bees nearly as wide as the crack under the bottom of the door, all traveling on foot in the dim light across the sitting-room, through the door into the honey-room, up the walls to the honey stored on shelves all around the room, not a single bee taking wing, nor giving off a sound — only a contented murmur. In all, the bees traveled not far from twelve feet to the honey and the same number of feet back to the crack under the door.

My first thought was to shut the honey-room door; but I knew that would kill lots of bees and make a bad mess of stickiness and dead bees about the door, so I opened the window-blinds from the outside on the window to the honey-room. This immediately put thousands of bees on this window; and while they were collecting there I slipped back to the sitting-room and opened the door where the bees were going in at the crack under the same. As soon as this was done I took advantage of the bees going to the light by flying each way, and shut the door of the honey-room. As this door shut tight, it stopped operations from the sitting-room, and two hours later nearly all bees had left going in at the open door. The window was taken out from the outside, when it was put back as soon as most of the bees had been jarred from it, and before the news was carried that there was another way to the honey. An hour later the window was again taken out, when all of the bees were gotten rid of. In all we had a loss of about 200 lbs., and probably nearly as much more by the honey being partly carried out of the combs.

But if there are no sweets exposed, you may have been handling your bees improperly. Bad handling is even worse than robbing, for a bee made angry from reckless handling will follow one around the apiary for days and even weeks, stinging whenever a chance is offered, while the crossness coming from robbing ceases with the end of such thieving. I have known bees made so cross by careless handling in taking off honey on a dark cloudy day in the middle of the honey harvest, when there was no disposition to rob, that not a person could get out of the door to the house on the side next the bee-yard for a week without getting stung. Let the bees alone as far as possible till things quiet down, and then keep them quiet by proper management.

By a little careful attention any apiarist will soon learn the disposition of each colony in the apiary. Some colonies will submit to all the needed manipulations during the season without smoke, or the use of a veil. Others need both, while a few must be thoroughly subdued with a volume of smoke blown in at the entrance, before each and every manipulation, and, failing here on these colonies, and especially at a time of scarcity of nectar, a row is sure to be the result, with cross bees following about the apiary for the next week or ten days. With most colonies a puff or two of smoke blown in at the entrance, to startle the guards, and a puff or two over the tops of the frames or the supers, when the cover is lifted, is all that is needed. Don't try this on a very vicious colony, however.

General Correspondence

CAN COMBS AFFECTED WITH AMERICAN FOUL BROOD BE FREED FROM DISEASE?

The Details of the Two Plans Followed for Curing an Apiary and Producing a Crop of Honey at the Same Time.

BY HENRY STEWART.

Continued from last issue, page 417.

Before taking up my methods of treating foul brood, it might be well to confess that they are not infallible, and I would liken them to the cultivation of a field of corn. If the conditions are favorable and the work is properly done, the first cultivation should get most of the weeds; but a few will be left for a second and third, and even in the fall a few weeds might be found although the crop was secured.

The conditions for the best results by my methods of treating foul brood consist of a good honey-flow. Without a honey-flow in the honey-producing season I never attempt to treat foul brood by any method. In the spring, or as early as practicable, I make a hasty examination of every colony by removing one of the center combs and looking for foul brood. Whenever I find it I tack on the front of the hive a piece of section on which is written the word "Foul." Early in the spring I contract the entrance of every hive, the foul-broody ones needing greater care than any of the rest. All weak colonies should be united and the whole apiary closely watched. The proverb, "An ounce of prevention (to keep bees from robbing) is worth a pound of cure," is never more true than when watching foul brood.

My next operation is about the time of the beginning of the first good honey-flow —probably fruit-bloom. At this time I again inspect every colony as before; and if I find any new cases I mark them. At this time nearly a half (and often more than half) of the combs contain no brood, and in the majority of these combs no trace of the disease from the year before can be found. I now go over all colonies marked "Foul" as follows: I go to No. 1, remove the outside combs that appear to be clean, take them to No. 2; inspect first the outside combs, and leave all that appear to be clean. I then brush the bees from the others that are not clean, and in their place fill in with clean combs from hive No. 1. Then I mark this hive (No. 2) with the letters "C. F." and the date, meaning that this hive is cleaned from foul-broody combs. After this I put back in hive No. 1 the diseased combs and brood that I removed from No. 2. I follow this plan throughout the whole yard, taking care that No. 1 has sufficient bees to care for the additional amount of brood. If the work is properly done a large percentage of those marked "C. F." will remain clean. Any colonies that do not, will contract the disease in a mild form; and unless all such are strong enough they should be treated by the second method. This second method may be resorted to at any time during the honey-flow when the individual colony has sufficient strength to work in an extracting-super.

Referring again to the honey-board described in my first article, I will now give my reason for making the board of solid wood with the exception of a strip of queen-excluding zinc containing two rows of slots lengthwise through the center of the board. My reason for this is to prevent, as far as possible, the siftings of diseased matter down on to the brood-combs below from the diseased combs above. If there is any thing in this, it would appear that the Crane honey-board, as described in the December 15th issue, 1908, having a solid center and queen-excluding openings on each side, might be just as effective, and possibly more so, as the siftings over the brood-nest would then be more nearly shut off.

My second method, referred to above, is as follows: I prepare a hive with a set of clean combs, or with full sheets of foundation, in either case using a frame containing some honey and a small amount of brood taken from a healthy colony, placed in the center of this newly prepared hive. I next secure the queen and place her upon this frame of brood, at the same time removing the old hive from its bottom-board, putting this new one on the old stand in its place. As soon as the field bees have found their queen in her new quarters I place my honey-board on top, and over it put the old hive containing the diseased brood. Lastly I put on the cover and then leave the hive alone for two weeks, at the end of which time it is well to remove any queen-cells that may have been started in the upper hive.

Right here I will mention one feature of my honey-board that I did not say any thing about. There is an opening through the back end of the board, 2½ inches long by ⅜ wide. This is to provide a flight-hole so that the bees from the upper story can work independently of those in the lower story. These slots should be closed at the start to force the workers through the new brood-nest. The tendency is for the bees to go to the brood and desert the queen. The one comb of brood is put below in the new brood-nest to offset this tendency and also to prevent the queen from sulking, or leaving the hive altogether.

The set of foul-broody combs now becomes an extracting-super, and it should be left until all the brood is hatched and the combs are filled with honey. If the bees need more room, another story in extracting-combs should be added; and when these combs are filled with honey, it matters not how foul they may have been, they are now, together with the honey in the cells, as pure as the purest. As soon as the new brood-nests become well stocked with brood they should be examined; and if in any of them foul

brood is found, the set of combs above, as soon as all the cells contain honey, may be extracted, the queen placed on them, and the position of the bodies reversed and treated as at the start.

Some time before the close of the honey season, which in this locality is in September, I make another general inspection of all my colonies; and if any disease is found I mark the hives. When I finish extracting I leave on the hives a sufficient number of clean filled combs to exchange later in the season for any foul-broody ones that I find. I now wait until all brood-rearing is over, which is about Nov. 1, then I remove from each foul-broody colony all the combs and in their places put a new set of clean combs containing a sufficient amount of honey for a winter supply. As there is no brood-rearing going on at this time, this method is very sure.

WHAT IS TO BE DONE WITH THE DISEASED COMBS?

The diseased combs may be saved until a good honey-flow, when they may be cleaned up, filled with honey, and extracted; but unless the owner has a good safe place to keep them, and considers them of much value, I think it is a good practice to extract the honey and render the combs into wax.

I have been much interested in the articles recently published on plans for getting rid of European foul brood. I have had no experience with this disease, but would suggest that the reason why American foul brood appears to be more difficult to handle in this way than European foul brood is that, in the former disease, a much larger per cent of the brood dies after being capped over, and these capped-over cells are not so readily cleaned up as the uncapped cells. However, when the combs are full of honey the bees have made a thorough job of it and the combs are then clean.

Prophetstown, Ill.

CLEANING OUT BAIT SECTIONS AND EXTRACTING-COMBS AT THE CLOSE OF THE YEAR.

How to Avoid Fighting and Robbing.

BY G. C. GREINER.

This is an old subject, discussed and talked about time and again; but I believe there are some points connected with it that have never been mentioned.

To prevent the gnawing of combs, one of our prominent writers advises reducing the entrance to a single bee-space. This may have the desired effect; but in my opinion there is a better way to accomplish the same result, but in an opposite direction. The small-entrance plan seems faulty in more than one respect.

We are told to reduce the entrance to guard against robbing. How can we expect that the same device can be a protection in one place, keeping robbers out, when at the same time, only a few steps from it, we make it as inviting as we can to coax robbers in? Isn't this a little inconsistent?

Then the small passage causes a terrible jam. It is a continual crowding and fighting to see which will be first, either going in or coming out. The wear and tear of bee-life in trying to get at the tempting sweet is entirely needless. A little different method will prevent all this trouble.

Again, the reduced entrance greatly delays the job. What is the object in prolonging the anxiety and efforts when the whole business can be done in less than two hours' time without the least crowding or fighting among the bees?

Another unpleasant feature in connection with small passages is the excited condition of the bees; they will sting everybody, far and near, if they have to fight to get at exposed honey, and they are all the more excitable if this work has been delayed until all natural sources have ceased to yield honey.

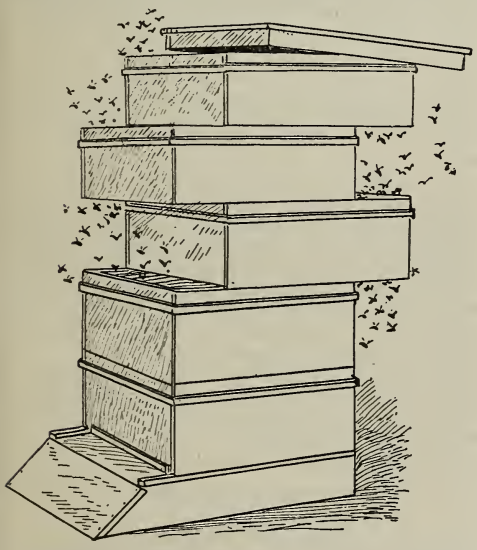
The plan I have followed for years is something like this: When I strip my colonies of all their supers at the final ending of the honey season, which is generally during the fore part of October, these supers are taken, one after another, directly from the hive to the honey-house, and extracted. They are then stacked up as high as I can reach, in rows, on the west side of my bee-yard. All my hives face the east, so that the supers are placed, as you might say, behind the bees. Every first or bottom super is set on a hive-stand with the hive-bottom in its proper place; and every entrance so formed (all supers with regular hive-bottoms are perfect hives) is securely closed, using one of the sawed-out rabbet-strips as an entrance-block. The bait sections are sorted out as soon as possible, and stacked in like manner after all capped honey they contain is scratched with an uncapping-comb.

During the accumulation of supers all bee-stacks are kept perfectly tight, and covered. Not a bee is allowed to get a taste until all combs, baits and extracting, are ready for the cleaning. I select the first pleasant warm day; and if there is still a little fall honey coming in, all the better. I wait till about 3 o'clock; then I open the whole outfit from top to bottom, except the crack between the two lower supers and the regular hive-entrance at the bottom. This latter I keep closed, for I do not wish to show my bees the way that might lead them into mischief later on. All openings are either at the back or higher up, where they could not find an entrance in a common hive, if they should take a notion to look for trouble.

The accompanying drawing shows one of the stacks when opened for the bees. It takes only a very few minutes for the jubilee to begin. It seems as though all the bees of the yard were summoned by magic to this very spot. But there is such a large area of accessible honey, and no restriction whatever against entering and partaking of

it, that there is no fighting nor crowding, and the bees are too busy to attack any one. I frequently walk right through the thickest of them without veil or protection of any kind, and am hardly ever molested by a single bee. It is the crowding and fighting that makes them ill-tempered.

As the day draws near its close, the multitude of bees decreases, and by sundown every thing is quiet again, and that is all there is to the cleaning process. As soon as the last bees have left I cover up and make every thing bee-tight as it was before. Under no consideration would I leave any combs exposed after dark, for that is the time when the wax-moth gets in its deadly work. Being late in the season, the danger from that source may not be very serious; but I would rather err on the safe side. Adhering rigidly to this precaution I never have any trouble with worms in my extracting-combs nor in section honey either. To fumigate is almost an unknown term to me. I have had no occasion for its practical application in twenty years or more.



GREINER'S PLAN FOR CLEANING OUT EXTRACTING-COMBS AT THE END OF THE SEASON.

Taking every thing into consideration, the plan I outlined above is undoubtedly the simplest and most practical in use. But it has this drawback: All honey thus fed back to the bees is distributed in a promiscuous way. All have not only an even chance, but the strong colonies that need it the least get the most, while some that may really need feeding get very little. However, to counteract this difficulty we have a way out. It is an easy matter to reserve at our last extracting a few dozen, or as many as we may need, of extra-heavy combs of honey, and use them to supply the needy ones. This is by far the easiest, most complete, and least labor-requiring method that we can employ to supply our light colonies with their necessary winter and spring stores.

La Salle, N. Y.

THE HONEY-FLOW IN HOLLAND.

Some Observations on it for the Last Few Years.

BY HENRI MEYER.

In our bee-calendar the years 1906, '07, and '08 are booked as bad honey-years. The worst of the three was 1907—a year of very little sunshine, of heavy rains, thunder and hail storms. In August, 1907, the minimum temperature went down to freezing for several nights. On the best days the maximum temperature scored 50 to 56° Fahrenheit. During the whole month on which our last hope for a satisfactory heath crop was fixed we suffered from cold, rainy, and windy weather. Practically we did not see the sun for weeks. On the heath we lost millions of bees. Many bee-keepers who do not look after their colonies before the end of the heath season found more than half of them dead and the rest starving.

On a heath six kilometers from Arnhem I discovered a range of old straw skeps, the property of a bee-keeper residing at Tiel, some forty miles from there, in which not a single bee was living. The poor man's whole possession lay in a state of putrefaction on the bottom.

The end of the season was fit to make the most patient bee-keeper rebellious. When the heath had faded we got splendid weather. September and October brought us the long-desired warmth. In the last days of the latter month we noted a temperature of 70° F. in the shade. But it was all in vain. The mild weather in the late fall could not undo the evil done by the February temperature of August. In some parts of our country the bees gathered some nectar and pollen from the "herick," a sort of wild-rape seed (a very troublesome weed) producing a dark-colored honey which is said to be a dangerous winter food.

Thanks to the splendid fall weather, we succeeded in feeding up the weakened colonies with sugar syrup to a reasonable weight. Nevertheless a severe and irregular winter with intermittent periods of strong frost and abnormally soft temperatures caused heavy winter losses. This was especially the case where the winter food consisted of a syrup from white-beet sugar. A neighbor bee-keeper who fed his 30 winter colonies with 300 lbs. of beet sugar lost them all, notwithstanding the winter provision was capped and the condition of the winter seats in the thick-walled Gravenhorst straw hives left nothing to be desired. It seems that the chemicals used to purify the beet sugar must be poisonous to bees.

After this bad winter we got a most promising spring; and with good hope for better

success we opened the campaign by migratting with the remainder of our living capital to the fruit-orchards of the Betune. It must be explained that in Holland no profit from bee-keeping is possible unless one follows the bloom. In early spring (that is, the first days of April) the bee-keepers of the high sand grounds in the Velune remove their colonies to the rich clay districts to gather the nectar from hundreds of acres of apples, pears, cherries, and strawberries. Considerable quantities of honey are stored there by the bees when the weather is favorable. On account of our changeable climate, however, no bee-keeper should think of extracting that honey. Our bitter experience forbids this. Indeed, after a rich honey-flow of some days a sudden change of the weather may bring frost, snow, and hail. So we must leave the superior spring honey to the brood.

In other parts of our country, in South and North Holland, Zeeland, Utrecht, Friesland, and Groningen, the spring flow consists mainlyof the rich rape-seed field and the meadow honey-plant of which *Taraxacum officinale* (dandelion) is the best. In April and May some of our meadows, especially those that served a year before for hay-production, are literally covered with a golden carpet of dandelion.

When the fruit-blossom is over, a stagnation in the flow is apparent. The best colonies will then manifest the first symptoms of swarming. For the amateurs of the "multiplicating system," a busy time begins. As a rule the first swarms are drummed off, and if conditions are favorable one single straw-skep colony will produce in a short time from three to four new colonies. In the meantime a new honey-flow is coming on. Some bee-keepers remove in the first days of July to the buckwheat-fields; others remain in the clay districts where white clover is abundant, and others hunt for a good place in the vicinity of lime-trees and acacias.

When the weather is just what we want, there is possibly no stronger honey-yielder than buckwheat. But it must be said there is possibly no other honey-plant that suffers so much from conditions and delicacy. Indeed, buckwheat in Holland will not yield surplus honey unless the weather is not too warm, not too cold, not too dry, not too damp. When the sun shines brightly, buckwheat gives nothing but pollen. When the soil is poor it gives nothing at all. When the soil is rich the farmer would be a fool to sow buckwheat, because other seeds would be far more profitable.

Now, Mr. Editor, last year some farmers grew in the immediate vicinity of my summer stand nearly ten acres of buckwheat. The soil in the environments of my home consists of diluvial sand, which has been cultivated, perhaps, a century. Phacelia, Spanish chestnut, and lime trees yield honey profusely on that soil. Fruit-trees, however, give nearly nothing. I had the choice of removing my bees to a good buckwheat district, ten miles from home, or try the buckwheat of my neighbors. I chose the last, while my neighbor bee-keeper removed to the buckwheat-fields near Lunteren, ten miles from here. Well, they returned from there with a hundred straw skeps full of well-capped buckwheat honey. And what about my honey crop?

Let me tell you I did not get a teaspoonful from the ten acres, and this notwithstanding the weather was favorable—not too dry, not too damp, not too hot, not too cold. What was the reason of this phenomenon? I can only guess. The soil in the vicinity of my home consists of sand with a very low ground-water level. You may dig there to a depth of sixty yards before reaching water. In the vicinity of Lunteren, however, the water level is about three yards below the surface. Besides this the sandy soil there is mixed up with old layers of mold, or humus, originating from old swamps. In the soil there I suppose there must have been an element not present in the high sands near my residence.

Mr. Townsend, in his interesting article about the honey resources in Michigan, p. 1104, 1908, says: "I do not include it (buckwheat) in the list as a surplus-honey producer; for on the rich soil of Southern Michigan it rarely produces any surplus; and when it does I think it would be when it is sown *on a rather poor quality of sandy soil.*"

The quality of our high sand, however, was of the desired poorness, farmers here doing a lot of "business" with a small quantity of stable manure or compost, which will do for potato and rye culture; and notwithstanding that desired poorness of the sandy soil my buckwheat did not produce *any* honey. What was the reason? What was the missing substance?

Mr. Editor, I humbly believe that a bee-keeper must have a life as long as Methuselah's to know *something* about bee-keeping at the end of his days.

Arnhem, Holland, Dec. 4.

Starved-out Swarms.

I lost seven hives of bees out of eight last winter, and the remaining hive is weak. This eighth colony did an unusual thing about a month ago. It was in a big Dadant telescope hive, and early one Sunday morning my wife told me it was swarming. I knew it was very weak, and said "rats;" but she insisted. I then got out of bed, and, sure enough, they were. They swarmed out of the hive they were in, and entered a double ten-frame Dovetailed hive a few feet away in which the bees had died the previous winter. They were only about a quarter the size a swarm ought to be. On examining the hive they left I found it destitute of honey, and only a patch of brood about as large as the palm of your hand. The bees deserted it entirely, I think there was some honey in the double ten-frame hive they went into, and they are still living in it and appear to be increasing slowly.

Ben Avon, Pa., June 18. H. P. JOSLIN.

[This is a clear case of a starved-out swarm. Little weak colonies or nuclei will very often swarm out in the early part of the season if they run out of stores. They will surely starve where they are; and if the scouts find a place, as they did in this case, where stores are available, they do the right thing, of course—swarm out.—ED.]

N. A. BLAKE'S COMB-HONEY APIARY NEAR PASADENA, CALIFORNIA.

A COMB-HONEY APIARY IN THE ORANGE-BLOSSOM REGION OF CALIFORNIA.

BY N. A. BLAKE.

The engraving shows my home apiary two miles west of Pasadena. It contains 350 colonies in eight-frame hives which are run mostly for comb honey. I secure the comb honey from the orange-blossoms, the nearest grove being 1½ miles away.

The trees shown are California oak, and in the center will be noticed some stalks of white sage that are just shooting up. Some of the colonies that built up this apiary were taken from the hills in the distance. We clip all our queens and make but little increase.

I have taken GLEANINGS 25 years. We sold our apiary in the far East nine years ago, and came out here and built up again.

Pasadena, Cal.

HOW MUCH IS THERE IN SHAKING?

An Appeal for Actual Experiments to Test the Value of the Plan.

BY GEO. W. WILLIAMS.

The theory of shaking bees in a systematic manner with the idea of simplifying some of the various manipulations of the apiary and stimulating the waning energies of a stale colony has been discussed to some extent in the journals, both intelligently and otherwise. It is amusing to note the ease with which some decide as to the merits of things (in their own minds) without giving them a test, and, forthwith, proceed to advise the fraternity. This display of personal egotism could be passed over with a smile if it were not sometimes a little dangerous. We can not afford to allow a valuable hint or idea to be laughed out of court without a fair trial.

Some time ago a theory was advanced by myself and others, supported on my part by 25 years of observation and practice, and by others on actual results claimed. The theory was that "shaking" (i. e., any extraordinary disturbance such as hauling bees over rough roads, transferring, shaking out on the ground, etc.), accomplished desirable results *per se*, and that this simple process in itself could be made to take the place of the more complicated manipulations.

Although last season was an unfavorable one for actual trials, some satisfactory progress was made in the achievement of results. The Roots report some measure of success in introducing queens by the shaking plan. They report good but not uniform success. They hope to find the cause of their failures. Bro. Doolittle reports a rather complicated plan for uniting by shaking which he considers a success. By the way, Bro. Doolittle, I have had uniform success by shaking the bees from the two or more colonies to be united upon a cloth, or even on the ground two feet from the entrance of a hive placed on either of the locations or any other desired, for that matter, alternating frames from the different hives, and allowing the bees to run in all mixed together, doing the work at dusk so as to be sure to get all the field-bees in. Others have reported more or less favorably, while a few like Mr. Holtermann "think" there is nothing in it.

Then on page 322, May 15, Leo Gately takes the position that shaking is illogical

BRINGING IN THE ABSCONDING SWARM IN A SECTION OF A BEE-TREE.

The entrance was closed by means of a handkerchief frozen on with snow. The ends of the log were closed with snow.

and meaningless, and is certain that the mere act of dumping bees out on the ground is of absolutely no value. He believes it to be an error to say that the act of dislodging the bees from the combs in a pile in front of the hive can bring results *per se*, and he can not see why this should bring an old colony into the psychological condition any thing near that of a newly hived swarm. He believes the increased activity manifested by a swarm is due to their broodless and not to their mental condition. As Mr. G.'s position is a purely negative one, unsupported by any given facts, but based solely on his personal theory and belief, I will not answer his theories. But as it is doubtless his honest belief, and possibly that of others, I ask that all those who are interested in the matter conduct a series of experiments this season to find out how much value there may be in shaking in the different manipulations, keeping in mind that the fundamental claim made for it is that it puts any old colony, properly shaken, in a psychological condition more or less similar to a newly hived swarm. This principle, established or disproved, establishes or refutes any claims made for the system. So I would suggest that you compare shaken with natural swarms under the following conditions, always being sure that the swarms so compared are identical in size, race of bees, age of queens, and time of swarming.

1. Hive shaken swarms and natural ones alternately on empty combs.
2. Ditto on starters.
3. Ditto on one-frame of brood.
4. Return them to the old location on all the brood.

THE LOG SPLIT OPEN AND THE COMBS OF BEES REMOVED.

Then if you find, as I have done, that results are practically identical, it follows that the manipulations possible with a natural swarm are also possible with the other, and introducing, uniting, moving short distance, increased energy, etc., are possible after shaking, as we know that we can do these things with swarms.

As I have stated before, I have no ax to grind in this matter. Personally I do not care whether or not any one takes the short cuts made possible by shaking, thus increasing his efficiency. But I do feel the natural affection of a parent for his offspring, and desire to see the bees have a square deal, and then if they do not make good it is their own misfortune.

The season is right upon us to begin these experiments, and it gives promise of being a good one to put this idea into actual practice, as the best results have been apparent during a long and abundant flow (and, incidentally, I have noted that hybrid bees respond more favorably than any others). Above all, do not "think" conclusions, but *know* before you draw them.

Redkey, Ind.

AN ABSCONDING SWARM THAT WAS NOT CAPTURED TILL COLD WEATHER.

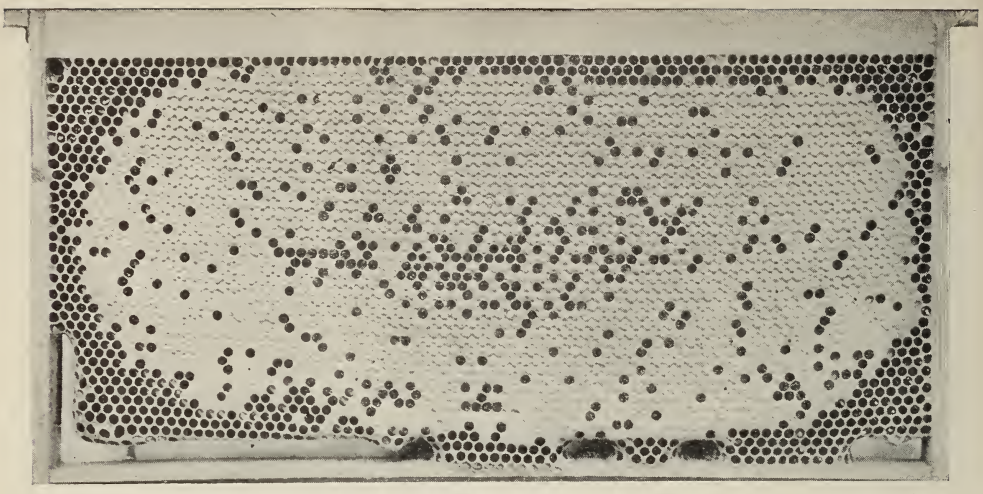
BY G. W. TEBBS.

Two farmers living near me purchased two colonies of my Italian bees about two years ago, and had good success so far as honey production was concerned. But when the swarming season came they had difficulty in securing the swarms, owing to the fact that their farms were situated in the midst of swamps connected with Puslinch Lake, which is about two miles in length. I advised them to cut the wings of their queens, and so keep them from flying into inaccessible places when they left the hive. Previously, however, some of the swarms got away into the bush, and apparently were lost for ever.

One day last winter we began to clear a portion of the bush about a mile from the hives, and in felling a big tamarack a cloud of bees flew out. When we examined the tree we found that the colony occupied about seven feet of the tree, the entrance being about nine feet from the ground. After allowing the bees to return we put a handkerchief over the entrance, spreading it so as to permit air to enter, and froze it on the trunk with snow, the temperature being about 14 below zero. We then sawed the log above and below the colony, filling the hollow ends with snow, and brought it home. We cut the log half way through just where we thought we could get at the bees, on either ends of the combs, and then split off the sawn half, exposing the combs. This was done indoors. Then we transferred the bees from nine long combs to a hive of partially uncapped frames, packed them in the usual way for the winter, and brought them through in good shape. I shook the bees on to the frames in the hive, and extracted about 50 lbs. of honey from the natural combs, afterward melting them up. The log is preserv-

A SWARM FROM THE COLONY THAT WAS TAKEN FROM A BEE-TREE IN WINTER.

A GARTER SNAKE CAUGHT EATING BEES AT THE ENTRANCE OF A HIVE.



A NORMAL FRAME OF SEALED BROOD.

ed as a curiosity to those who have not seen a bee-tree when they visit my apiary. Somehow or other, *that* honey seemed sweeter and nicer than the honey we get in our regular way. Was it the novelty and the trouble that gave it its flavor?

Hespeler, Ont., Can., June 16.

NORMAL BROOD-REARING.

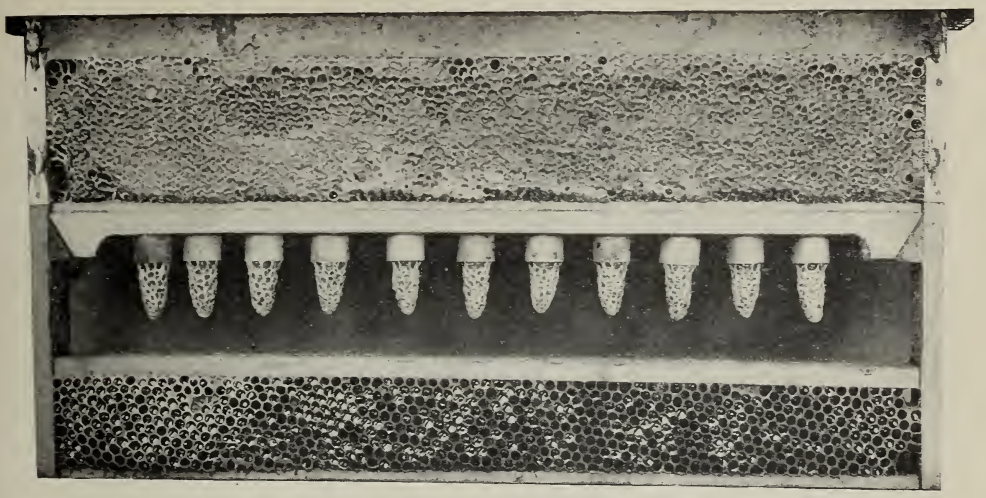
Some Characteristics of Races in the Matter of Brood-rearing; the Influence of Environment.

BY E. R. ROOT.

The accompanying photograph of a frame of sealed brood shows the work of a normal Italian queen under favorable conditions, or, rather, perhaps I should say, conditions during warm weather or when the colony is sufficiently strong so that the queen can extend her egg-laying clear out to the end-bars. While the camera was being posed a number of young bees emerged, or were just hatching, leaving a number of empty cells in the center; and before the exposure was taken they had to be brushed off in order to show a clean frame of brood. The empty cells scattered here and there near the margins of the comb contained pollen. So, taking it all in all, this would represent a good comb of sealed brood, rather fuller than the average. The queen had evidently laid all her eggs within 24 hours on this side of the comb. Most of this brood, probably, would hatch or did hatch inside of 24 or 48 hours.

This frame of brood is a little abnormal for an Italian queen, in that the brood alone reaches clear to the top-bar and almost to the bottom-bar, and comes a little nearer the end-bars than we usually find them. As a general thing there is about one inch or two inches of cells of honey near the top-bar. This is due to the fact that there is apt to be a slight stretching of the cells near the top-bar—so much so that an Italian queen, at least, will not lay in them. The bees fill these with honey, or with syrup if they are being fed. An Italian queen generally won't come much nearer than one inch or an inch and a half of the end-bars. She may, however, reach clear down to the bottom-bar if the colony is fairly populous. On the other hand, if the conditions are just right for brood-rearing, and there is not much honey in the hive, the queen will fill out a frame just about as we see it here.

Recently I was looking over one colony of Cyprians that we have; and if I did not look at the bees at all, nor notice their nervous, irritable temperament, I should know at once that I had a colony of Cyprians or Syrians, because of the fact that the brood was filled clear out to the top and bottom-bars and to the end-bars. In fact, there were whole frames with solid masses of brood without any vacant corners, as will be found in the average frame of brood from an Italian queen. These solid frames seem to be very characteristic of the Eastern races of bees. The Italian bees, however, at least the leather-colored stock, reared as they are in southern Switzerland and northern Italy, have apparently learned by centuries of experience that the brood in the corners of the frames and the extreme edges of the hive is liable to be neglected. Whenever a cold night comes on, the cluster shrinks in a Langstroth hive something to the form of an oblong sphere — that is to say, it assumes the shape of an egg. Any brood that is left outside of this cluster is quite sure to be chilled. On the other hand, the Eastern races are bred in hot climates, and *their* centuries of environment have shown them that it is not necessary to "cut off the corners" in their brood-rearing. It therefore follows that the leather-colored Italian bees and the black bees are better prepared to stand the shock or extremes of



AN EVERY-DAY AFFAIR AT MEDINA.

weather or temperature night or day during the summer time. Experience also shows that they are better for a temperate climate than the Eastern races. On the other hand we find a tendency on the part of bee-keepers in our tropical climates to favor the extra-yellow bees, or bees with a sprinkling of Eastern blood.

CHARACTERISTICS OF A NORMAL COMB.

A further examination of this comb will show that every capping to each cell of brood is convex. While not so much so as we find in the case of drone brood, yet in every case of normal-worker brood there is a fullness about the cappings that shows a normal condition. Now let us look for a moment at a comb that has, perhaps, one or two cells of foul brood, or at least that is all we can find. You will discover that many cells are slightly flattened. On looking into them we find nothing specially wrong. Possibly a little later these same cells will develop real foul brood, either the American or European.

In a word, there is a sort of something in the appearance of a normal frame of brood that shows that there is no trace of disease in it. An experienced foul-brood inspector, as he glances over a frame of brood, knows whether that colony is probably healthy or has a stray cell of dead matter *somewhere* in one of the combs. It is impossible to describe just the exact difference between a normal frame of brood and one that has a large amount of healthy brood and some brood that is liable to show, later on, infection.

QUEEN-CELL WORK AT MEDINA.

The next engraving shows what we see every day in one of our queen-rearing yards where we are raising cells off from the wooden cell-bases. These cells are raised in extra-powerful colonies; indeed, our cell-builders are the ones that give us the most trouble from swarming. We are obliged to keep them up to the swarming-pitch; and if no honey is coming in they are fed daily a little. This is absolutely necessary in order to get the larvæ in the cells lavishly fed; for it is very important that these baby queens have the very best care and attention in the early stages of their growth. The average visitor can go through any of our queen-rearing yards, and at almost any time an attendant in charge will pick up, quite at random, out of one of these hives a cell-building bar and find cells built out as nicely and evenly as this. Occasionally there will be a miss, but those misses are rather the exception than the rule now.

THE DISEASE SITUATION IN CALIFORNIA.

No One Race Immune.

BY J. T. DUNN.

The condition of the bees in the San Joaquin Valley is not as we would like to have it. European foul brood has done much damage in some apiaries; three-fourths of the colonies have had the disease; but the actual loss of colonies is very small, as many of them are now in condition for the alfalfa flow, which has just begun. Requeening has done much to check this disease in this county, but under certain conditions colonies with young queens develop the disease.

So far as I have experimented with the disease, race has very little to do with it. I have used all imported queens to breed from, of the following races: Three-band Italians, Caucasians, and Carniolans. If the colonies are strong in young bees, and if virgins are used, I have never had a case develop. On the other hand, if colonies are weak in bees I find it better to unite enough

of them to make one strong colony before giving them a virgin.

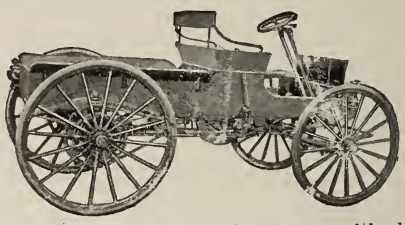
Fresno, Cal., May 31.

AUTOMOBILES AND MOTOR CYCLES FOR OUT-APIARY WORK.

A Combination of Livery Rigs and Motor Cycles the Cheapest for the Average Apiarist.

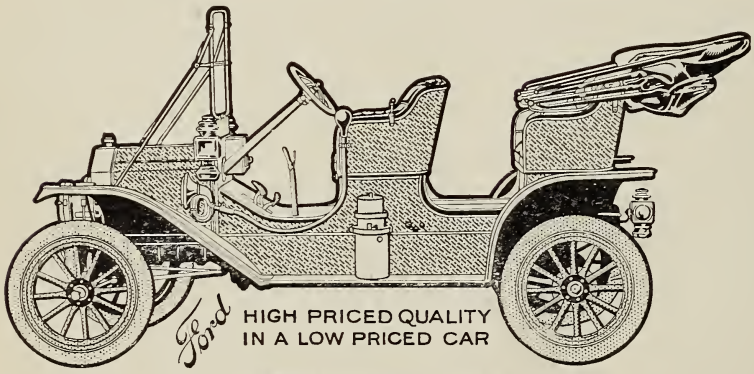
BY E. R. ROOT.

Some little time ago I promised to have something more to say on this subject; but I have been deferring doing so for the time being that I might look into the matter a little further. In the mean time I have been testing out motor cycles. Several of our correspondents of late have mentioned the value of this vehicle as an easy and rapid means in carrying a man to and from the outyards. We accordingly purchased a Yale, which is a light powerful machine, and especially adapted for hill-climbing and for rough roads. It is not quite so speedy as some of the other machines; but for our purpose, at least, in view of some of our long hills we thought it better to have a machine especially adapted for grades. For the year 1910, at least, we decided to use a motor cycle rather than purchase a four-wheeled automobile wagon with solid tires and high wheels, costing in the neighborhood of $700 or $800. If we would consider interest and depreciation on a proposition of this kind the amount would hire a livery for every day for two months. In the matter of outyard transportation, if one plans rightly it will not be necessary for him to carry a load to or from the yard more than once or twice a week. In the meantime a man must go to an outyard at least once a day in the height of the season, especially if there be danger of swarming. With a motor cycle he can take in the rounds of three or four yards in just a few hours. A machine such as the Yale can be bought for $200. There are some higher-priced machines, but no better, as the added price only adds to the speed of the machine, so that we may consider that $200 is the limit of investment of a motor cycle. If we allow for ten per cent depreciation and six per cent for interest, this will amount to $32.00 a year. Then, moreover, there is only one pair of tires to take care of, and the tires cost less than half what a single tire would cost for an automobile, and there



International Harvester auto wagon with high wheels and solid tires. Well adapted for running on bad roads or in the mud.

are only half as many of them. Whether we run an automobile or a motor cycle the up-keep on the tires and replacement will will be the principal items of expense. Gasoline and oil are insignificant items. A good motor cycle ought to go from 75 to 100 miles on a single gallon of gasoline; and at a moderate speed to and from the yards of, say, fifteen miles per hour, one can practically bring every outyard into one location. Now, then, if the stuff is hauled by a livery to and from outyards once or twice a week the motor cycle will take care of all the other visits at far less cost than can possibly be handled by keeping a horse and wagon. If one has his own rig, that is, horse and wagon, there are some six months of the year when the horse is eating his head off, that is to say, there is a fixed expense going right on, while with a motor cycle there is no loss but depreciation. On the basis of 10 per cent for six months this would be only $10.



Ford four-passenger pneumatic-tired automobile.

Taking every thing into consideration, I have come to the conclusion that the average bee-keeper, if he lives in town, can hire a livery for hauling his loads, and use a motor cycle, which he purchases outright, in going to his yards, at far less expense than he can own a horse and buggy or an automobile wagon. If one were very extensively engaged in keeping bees, and had a series of eight or ten yards, then an automobile wagon and a motor cycle also would come in good play. Both would more than pay for the interest and depreciation on the investment; but if one owns only about three or four yards, the motor cycle will do practically 90 per cent of the work of transpor-

tation, and in much less time than a horse and buggy, and at only a fraction of the expense.

"But," the reader will say, "how about bad roads in the spring when the mud is bad?" Use the livery, of course. A motor cycle will not run in the mud; but a high-wheeled auto buggy will negotiate mud about as well as a horse and buggy.

There are two or three auto buggies, with high wheels and solid tires, that can be bought at about $700. If one wishes to combine business and pleasure, particularly if he wishes to take a man with him to and from the yards, then an auto buggy would be better than a motor cycle, although one can carry an extra man behind by putting on what is called the tandem seat. In this connection one can carry considerable light luggage by having a luggage-carrier on the rear or just back of the saddle. After one becomes expert he could probably carry two or three empty hives filled with frames of foundation or an equal bulk of supers containing sections and foundation; but I would not advise any one on the first few trips to try to carry any luggage, because he may have a bad spill. In any event, the foundation must be very securely fastened, for riding on a motor cycle is a good deal like riding on horseback. There is considerable jolting; and while the rider can ease up at the bumps, because he can stand on the pedals the same as he does on an ordinary bicycle, the luggage in the rear has to take the full force of all the jolts.

Auto Buggy made by the Auto Bug Co. This machine is well adapted for running in the mud.

Now let us go back to the consideration of four-wheeled vehicles. If the roads are fairly good, and one wishes to do some touring and combine business and pleasure, I would advise getting a pneumatic-tired outfit. If he feels that he can not afford the more expensive machines he will find the two-cylinder five-passenger Reo, such as we use, or the little four-cylinder Ford, capable of carrying four or five passengers, about as reliable outfits as he can purchase. If one wishes a more luxurious riding machine and can afford to pay a little more let him get a 4-cylinder Reo at $1250, or a 4-cylinder Overland at the same price. I happen to know that the Overland is a first-class machine and a splendid hill-climber. I am not sure but that I shall get one when I get a new machine. A full-page advertisement of it will be found elsewhere. These machines are made in immense factories so that the cost of production is reduced.

The chief cost in the way of maintenance of an automobile is the pneumatic tires. On a Ford a new set would cost somewhere in the neighborhood of $125. By careful driving they will run two years, but for fast and reckless driving they would not last a year. I make tires last about two years, and sometimes more. I rarely drive faster than fifteen miles an hour, and much of the time slower than that. As a natural consequence my two-cylinder Reo, listing at $1000, has a very low up-keep. For three years this expense, including repairs and replacement of tires. has been only $50.00 per year. Fast driving, or "joy rides," as they are called, are expensive for repairs, and replacements will sometimes about equal the cost of the machine in a single year. There is no earthly excuse for fast driving, and people will be killed by the score until our laws are better enforced.

Where roads are bad and ruts are deep, and there is need of clearance under the axletree, we would advise the use of solid tires and high wheels. They are not as easy on the machine and the engine; but with careful driving there is no reason why the running gear should not give good service. If one wishes to drive in muddy roads and good roads all the year, the high wheels and solid tires are a long way ahead of the low-wheeled pneumatic tires. In this connection I wish to make it very clear that pneumatic tires, even though they have chains on, are not adapted for running in the mud. If I get caught in a storm and *have* to drive in the mud I do it, but I do not like the job. On the other hand, from some tests that I have made and seen, the high-wheeled solid tires will run in the mud almost as well as a horse and buggy. Such machines come nearer being all the year-round machines than the other type. If one has macadamiz-

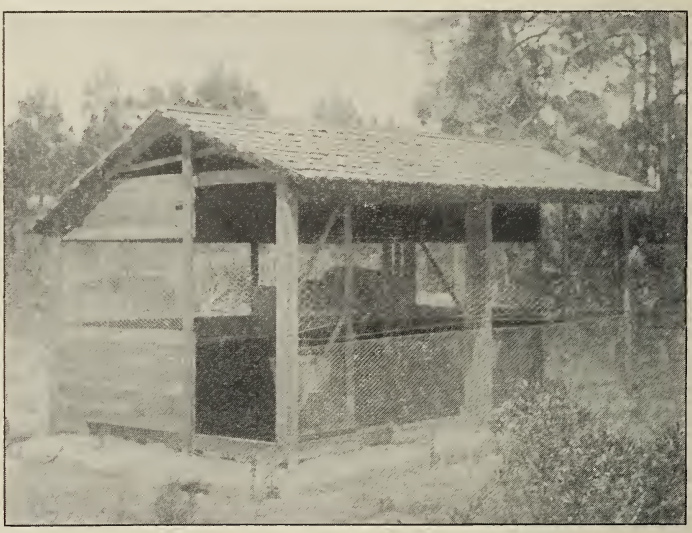
ed roads and brick pavement I would by all means have a pneumatic-tired outfit.

As a general rule, pneumatic-tired machines are better built than those sent out with high wheels. Most of the concerns engaged in the manufacture of the buggy-type high-wheeled outfits are small. There is one marked exception, however, and that is in the case of the International Harvester Company, of Akron, Ohio. These people turn out annually something like five thousand machines, and they are sold all over the United States. One of their wagons is shown in the small illustration. Another machine, sold by the Auto Bug Company, of Norwalk, Ohio, seems to be well designed and well built.

A POULTRY-HOUSE FOR FLORIDA AND OTHER SOUTHERN LOCALITIES.

BY A. I. ROOT.

In our issue for July 1, page 433, a writer suggests that poultry-houses in their region are constructed without roofs so that the rains may drown the fleas, etc. Now, I am well aware that the stick-tight fleas are worse in the dry sand under any sort of roof; but, notwithstanding, I am not yet ready to decide that nothing is needed to protect any part of the poultry-house from rain. For two years my fowls all roosted in evergreen trees; and while it is true, as a general thing, they suffered little inconvenience, there are occasional cold storms when I think they need shelter. On one occasion my flock of Leghorns, rooster and all, came up to our woodhouse door and almost begged to be permitted to go in out of a cold northeast storm. As I had no shelter prepared for them I drove them back and made them stay out in the wet; but the egg-yield fell off quite a little in consequence. After that I went to work and made some poultry-houses. The picture adjoining shows one.



A POULTRY-HOUSE FOR SOUTHERN FLORIDA, ACCORDING TO A. I. ROOT'S IDEAS.

This house is constructed much like the brooder-house described on page 189, March 15. The sills are 2×4; and in order to keep out rats and every thing else a strip of inch-mesh netting, one foot wide, is tacked to the sills and let down in the ground all around. The sills are supported on half-bricks, to keep them a little way from the ground and have the house stand square and level. All the rest of the frame, including rafters, is made of 1×3-inch lumber, planed. Well, the corners of the building are nailed together V-shape, as you will notice. Right under the eaves a V-shaped trough is nailed against the end of the rafters and on the under side. This is not to catch the rain water, for the shingles project beyond it; but it was put on to give strength to the building, and it forms a very neat receptacle for hammer and nails and all kinds of tools or any thing needed in the poultry-house. The shingles are nailed on to the ribs, which, as you will notice, are made of this same 1×3 stuff. The buildings are all 8 feet wide, and some of them are 12, some 14, and some 16 feet long, according to the number of fowls. The one in the cut is 14 feet long. A partition of poultry-netting divides the buildings in the center; then there are three poultry-netting doors all just alike. They are hung with spring hinges, such as are used on screen-doors. When the doors are all hooked open, there is a full passage clear through; but every night after the chickens have gone to roost the doors are all closed. This was done after the loss of thirty or forty small chickens from skunks and opossums. The south side is all covered with netting, as you will notice. The lower strips are of inch-mesh netting; the one above, two-inch, and the same inch clear around the building. The building is just high enough so I can walk through it without touching my cap. The north side is a little longer than the south side, and comes down a little lower. Three roost-poles are on the north side.

So far I have never found any thing better for nests than a common cheap flour-barrel. These barrels are secured with wire

to the partition just above the roosts. I very much prefer having the barrels up about three feet from the ground, because it renders unnecessary so much stooping over to get the eggs; and when you, my friends, get to be seventy years old you will be glad to have things so arranged that you can avoid stooping. One nest-barrel will accommodate twelve or fifteen hens. If you have more than that number you get two barrels, one above the other.

I have before explained that we keep the premises sweet and clean by raking over the droppings as soon as the fowls are out in the morning.

All feeding is done in galvanized tubs hung by wires just high enough so rats can not gain access. There is another thing I like about these tubs. When you purchase a quantity of grain or any poultry feed, throw in a certain quantity, and after the chickens have picked out all they want you can readily see how much refuse or waste your feed contains. One of these compartments, 7×8 feet, will accommodate fifteen or twenty laying hens very nicely, or forty to fifty half-grown chickens. Each building is in the center of a yard containing from one-eighth to one-fourth of an acre.

The shingles, as you will notice, are set about two inches apart. They shed rain just as well this way, and I think they last longer, because they dry out so much quicker, besides saving expense. The building in the cut was not quite finished when the picture was taken. I afterward found some of my enterprising pullets would get up in the gable to roost. Another thing, when I wanted to catch certain fowls, unless the gable opening was closed with netting or otherwise they would get away through the opening. And I must not omit telling you I placed some poultry-netting around those nest-barrels to keep the chickens from roosting on them;* and if you do not look out your chickens will be going *into* the barrel to roost, soiling the nest-eggs and nesting material. To prevent this we have a gate made of poultry-netting to close the open end of the barrel. When you open the doors in the morning, be sure to open the barrels so as to let in the laying hens. When you gather the eggs at night, close all the barrels. You *can* let the sitting hens hatch chickens in one of these barrels, but a very much better way is to have a similar building for sitting hens and nothing else. If you use barrels and nothing else for nests you can take a hen out of one barrel and put her into another (even from another building), and she will be very likely to settle down contentedly.

Now, if you do not like my Florida house I shall be very glad to have you send me some criticisms. Of course, such buildings will be all right for the summer time, here in the North; and I think they will be ever so much nicer and healthier than some already in use. Do you suggest there is too much draft? Well, I am satisfied that what draft there is in such a building in Florida, either for people or chickens, will never do any harm. When there happens to be a cold wind, so severe that chickens evidently wish to be sheltered from it, they find such shelter under the roosts; and that is why I boarded up the north side and a part of the east and west sides. This boarding-up is done with cull flooring which, as I have before explained, we get for only $12.00 per 1000 feet. I do not know just what such a structure costs. It depends on what you have to pay for the lumber, poultry-netting, and carpenter work.

Perhaps I may tell you the building in the picture was built almost entirely by my colored man Wesley, and I paid him only $1.50 a day. I helped him to build two or three, gave him some instructions in regard to the use of carpenter tools, etc., and after that he built, almost entirely alone, the one you see in the picture.

* Right here let me remark that, if you want your poultry-house to be always neat and tidy, and a place where you can invite your lady friends if you choose, you must have the whole inside so arranged that the fowls can not possibly let their droppings fall anywhere except on the soft sandy floor. To do this, every bit of furniture inside, except the roof, must be so that no hen can possibly find a standing-place on top of it. My nest-barrels soon got to be very untidy-looking until I took some cheap netting and ran it from the barrel up to the roof or nearly there. Sometimes, of course, there will occasionally be a few droppings on the roost-poles; but the one who rakes over the sand early in the morning can very quickly cleanse all such places with a handful of the dry sand. My impression is that stick-tight fleas can be kept out of this dry sand on the floor by occasionally spraying with carbolineum or some similar substance. My brother is now making experiments along this line.

LARGE VERSUS SMALL HIVE-ENTRANCES.

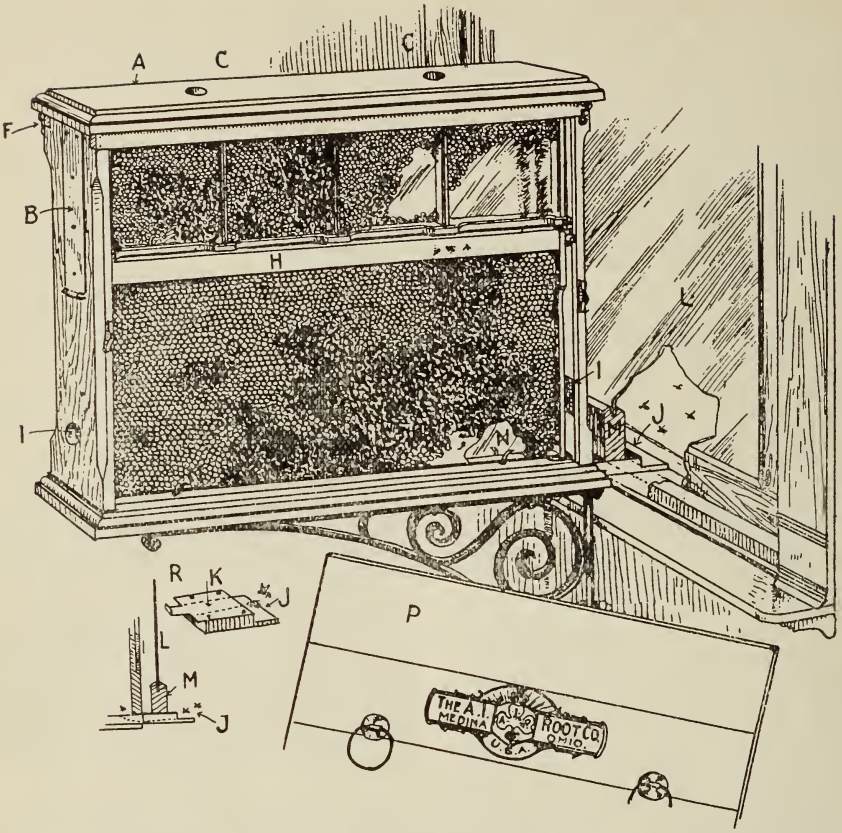
The Large Entrances Mean Greater Quantity and Better Quality of Honey in the South.

BY J. J. WILDER.

The appearance, body, flavor, and quantity of honey are affected to some extent by the ventilation it receives. Watery or greasy capped honey and thin honey, which soon ferments, generally come from the most populous colonies with small shallow entrances, especially in locations where the honey-flow comes in mid-summer or in settled weather with a high temperature. At least this has been my experience, and I have adopted an entrance 1¾ inches across the front of the hives and 1¼ across the back so as to give a current under the frames.

This is done by placing 1¼-inch strips the length of the hives under them on the regular bottoms as soon as the main honey-flow is on, leaving them under until winter. Bees will store more honey above such bottoms, and it is of much better quality. Also the comb is drier, and the honey retains its whiteness much longer.

If comb honey is set where the temperature is high, and where there is no current of air, the capping will soon appear brownish; and if the honey is the least thin it



Single-comb observatory hive with side panels removed. showing the sections above the brood-frames.

will begin to ferment, and soon the capping will appear watery or greasy. About the same condition prevails while it is in the hive. From experience I am led to believe that air is more essential in the hive than the average bee-keeper apprehends, especially in localities where the main honey-flow comes in settled warm weather.

When I first began bee-keeping I used very small entrances, and my bees would store only a few pounds of honey from the cotton-plant. It would ferment in the comb as fast as they stored it. It would all be sour by the time the flow ceased, and about half of it capped, which would have a watery appearance. Since I have adopted large entrances, allowing a current of air to pass, my yield from the cotton-plant is far greater, and the honey is thick and very wholesome, and the cappings are light and very dry. I contracted the entrances of a few hives this season, and found that the same conditions prevailed as in former years.

A bee-keeper near one of my apiaries from which I always get a good crop of honey has 25 colonies, and does not get enough honey for his own use. The only way this can be accounted for is that he has very small entrances.

Large entrances with a current of air passing under the frames check loafing as well as swarming to some extent, and overheated brood and other difficulties which we bee-keepers have to contend with in these low, damp, hot sections are done away with.

Cordele, Ga.

EXHIBITING BEES AT FAIRS.

BY H. H. ROOT.

Within the last few years exhibitors have learned that live bees create more interest at a fair than almost any other one thing. Too often, however, the bees are not displayed to the best advantage. If a colony is placed in an ordinary-sized hive, having glass sides, very little can be learned of the bees and their habits on account of the fact that the visible parts of the outside combs are not at all representative of the combs inside. Furthermore, the few bees on the outside are generally running around trying to get out and acting more or less demoralized.

The best and most convenient way for exhibiting bees is the single-frame observatory hive. A comb may be selected containing brood in all stages, both worker and drone, and if the queen is placed on such a comb with the bees, a crowd will stand for hours trying to catch a glimpse of the queen, of the bees that are just hatching, of the eggs, etc.

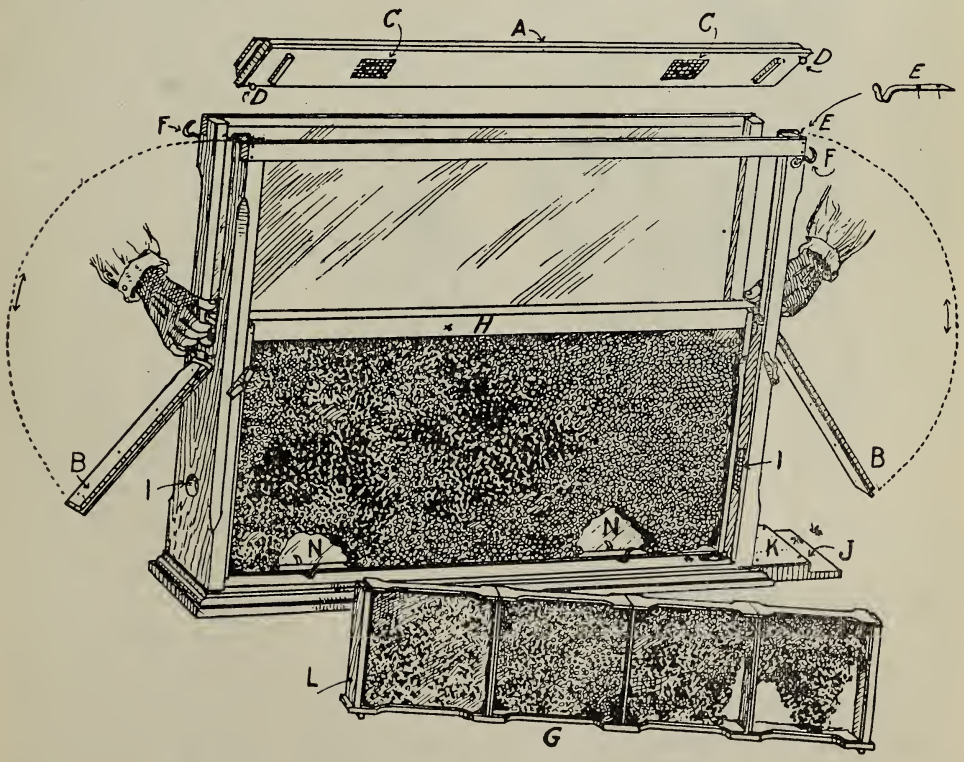
The invariable question is, "Are those bees making honey?" And to carry out the plan and have the bees in as natural a state as possible, it is best to locate the hive with one end on a windowsill, using a short "bridge" to extend from the entrance under the sash out to the outside. The bees will fly in and out just as though the hive were out of doors. Blocks of wood should close the open space on either side of the hive under the sash, so that returning bees may not fly in at the wrong place and come out in the interior of the room.

So small a colony can not produce surplus honey to speak of, but the exhibit is made much more attractive if four sections in different stages of completion are placed in the upper part. These may be selected from any super, or the hive from which the bees are taken, and the whole process is then clear almost at a glance. It is often difficult to remove the sections and comb from a single-frame hive of this pattern, but if the ends are made as in Fig. 2 the difficulty is at once overcome. As shown, the two ends above the brood-frame are sawed out so that the fingers may reach through the slots and grasp the ends of the top-bar of the frame, so that it may be lowered into place without a jar. The section-holders may then be let down in the same way and the two brass hinged plates swung up into position and fastened. When the cover is on, the hive is thus perfectly bee-tight, and yet the section-holders and frame may be lifted out at a moment's notice. It is quite important to make the removal of these parts easy, for so small a colony can not be kept indefinitely and a fresh comb must be inserted occasionally. At fairs, which last only a few days, a change of comb is usually not necessary; but in schoolrooms or in private homes, where the observatory hive is kept for the purpose of studying the habits of the bees, a fresh comb must be put in quite often.

NATIONAL ASSOCIATION NOTES.

BY N. E. FRANCE.

Albany, N. Y., has been selected by the Executive Committee as the place of meeting for the National Bee-keepers' Association this year. It will probably be some time during October, although the exact date is not yet decided. Get ready for a large and enthusiastic meeting. Every bee-keeper who can possibly arrange to be pres-



The brass plates at the ends of the "super" swung down to permit the easy removal of the brood-frame

ent should attend this meeting. Particulars as to the date, program, etc., will be announced later. Watch the bee-papers for it.

The membership of the National to-day (June 18) is 3885. It will be more than 4000 by the time of the National meeting. There are a few who should renew now; but after the honey-harvest all will attend to that, surely.

Many report that their bees are doing well. To-day we began extracting, and with four machines and steam-knives we took off a ton of honey. My son, who does all the uncapping, says that, of all the several methods of uncapping honey, he prefers the steam-heated knife.

If any member of the National wants a copy of my State Inspector's Annual Report for Wisconsin, and will write me for it, I will gladly mail a copy of it.

A renewal of membership was just received from a bee-keeper who has kept bees the greatest number of years continuously —88 years, I believe. The member is John Cline, of Darlington, Wis. The "boys" stay with us.

The number of copies of the last Annual Report of the National are getting low; but so long as any are left I will mail a copy to each new member. Also, for 4 cents for postage on each copy I will mail to any one other back numbers of Reports, as there are a few of them still left.

The program of the next meeting of the National Association is being prepared. It promises to be one of the best meetings the National has held in many years. If the honey crop should prove to be a good one between now and that time, the attendance ought to be a record-breaker.

A bee-keeper sent his National dues, claiming he wanted help at once, as his swarms lit on his neighbor's apple-trees, and the neighbor, with a revolver, said he would shoot trespassers. He claimed the bees ruined his apples and sucked the juice from his onions! How is that for charges?

Platteville, Wis.

A PATENTED FOUNDATION WITH A REINFORCING OF CLOTH IN THE BASE.

BY INVENTOR.

I am pleased to be able to say to you that I have just received notice that my claims for improvement in honey-comb foundation have been allowed, as you will see by the letter of my attorney, which I inclose for your information. It seems to me that the device is fully covered in the "claim" quoted by Mr. Hough. I wish you would try it out under your own observation, so that you may be fully informed and satisfied as to its merits. Until very lately I fully believed that any sort of swarm, in any condition, would accept the reinforced foundation as readily as they would take to a natural comb-starter; but a little time ago I proposed to shake a swarm to prevent swarming. On getting busy with them I found that they had cast a swarm the day before; but I shook the hive out on to empty combs, except one comb of brood, and, very unadvisedly, put in a frame with a reinforced starter (7×7). It was unadvisedly done, as there were not bees enough to cover properly one-third of the other frames, and almost no honey coming in. (I will say

HONEY HASN'T DOUBLED IN PRICE; WHY DON'T YOU EAT MORE OF IT?

here, that, where I am, after a little flow in March and April, there is very little honey-flow—honey flowers—till the sumac bloom). As I have had bees in fully as good condition cut out an all-wax foundation I really attach but little importance to that experience of non-acceptance of that sheet, except it has suggested to me the probable or possible desirability of using my device in full sheets in divided or two-part frames; also the fabric, if cloth, should be of the lightest and hard-spun thread. It may well be that a tough paper of manilla tissue would be preferable to woven fabric. Paper tissue I have never tried; but I have used a frame filled with a wax-saturated cloth, plain, with no cell-markings, with the most perfect success—so far as its *acceptability* went; but you may well imagine that the cell formation looked as though there had been a diminutive earthquake, as each bee seemed to begin just where it happened to be, and without regard to the work of the others.

I believe you will find this device one of the greatest helps in the brood-nest and in the extracting-supers brought out in many years.

[We have noted carefully all you say in reference to your invention. This is a very old idea, worked out and used by A. I. Root some thirty-five years ago. He made and sold it, but had to abandon it because the bees sooner or later would gnaw down the combs that were made on it. The same idea has also been patented in one form and another by other people, notably by one party in Cuba, who recently obtained a United States patent. Your claim is limited to the use of a "permeable reinforcing fabric medium," and, as such, is very limited and narrow. We doubt if the patent would ever be worth any thing to you, because if there had been any thing in the idea we would have used it many years ago. The thing has been invented over and over again, and in every case, so far as we know, has had to be abandoned. Foundation made of cloth makes beautiful combs to start with. The product, when drawn out into combs, looks all right; but you will find more trouble just exactly like what you describe. It is easy enough to make such foundation, but the two objections to it are, first, the expense of the fabric; and, second, the fact that the bees are hostile to any thing like fiber. In the dull season they are apt to gnaw down the combs, as they will do sometimes, until they are in shreds. Sometimes combs of this kind from reinforced foundation will run for two or three years.

We do not like to throw cold water upon your proposition or invention, but think it is only fair to give you our experience. In view of the citations and the write-ups that were made of this very product years ago in the back volumes of the bee-journals, your patent would be of little or no value.—ED.]

SIZE OF HIVES.

The Eight-frame, Formerly Considered the Best, Now Giving Way to the Ten-frame; A. I. Root's Opinion on the Subject.

BY BARRETT PIERSON.

It is interesting to read the discussions upon the merits of the ten-frame hive as against the eight-frame. The editor has put himself upon record, page 338, June 1, as being in favor of the ten-frame, and Dr. Miller seems inclined that way also.

I quote the following from page 145 of the A B C of Bee Culture, 1891 edition, which I think was the last edition entirely written by A. I. Root. "The eight-frame L. hive is now generally conceded to be the best working size; and it is plenty large for general purposes. The queen will seldom lay in more than eight frames in the brood-nest. If her brooding capacity extends beyond this, unless she is restrained she will go into the top story. In the ten-frame hive, Italians especially will fill eight frames with brood, and the two outside ones with honey, and this quantity of stores is apt to make them quite loath to enter the super. If the lower eight frames are filled with brood just at the beginning of harvest, and there are no more frames below, just as soon as the flow of nectar begins the bees are obliged to put it where we want it—that is, in the upper story."

There are few bee-keepers who have observed the habits of bees closer, or devised more articles to meet their needs, than A. I. Root, and the above shows that the eight-frame hive was the right size in 1891.

Prof. Beal, of the Michigan Agricultural College, once said that farmers had unconsciously improved corn by always selecting the best ears for seed. As bee-keepers and queen-breeders have always selected the best queens in their yards for breeders, the bees of to-day are better, and the queens are more prolific than those of 1891.

In almost all apiaries thereare some queens whose needs an eight-frame hive would better meet than a ten-frame; but as the demand for supplies shows that the ten-frame has the preference, it follows that the bee-keepers believe it is better to use eight-frames in a ten-frame hive for the poor queens than to crowd the more prolific queens in the eight-frame hive.

Flint, Mich.

[The paragraph in the old 1891 edition of the A B C of Bee Culture, which you credit to A. I. Root, was written by E. R. Root. The logic of the times and the experience of hundreds of bee-keepers, the tendency of the bee-keeping public to change from eight to ten frame hives, and our own personal experience, led us to believe that ten-frame hives are better than the eight-frame. If a queen can not quite fill ten it is a very easy matter to reduce ten down to eight-frame capacity; but it is not so easy to add two ex-

tra frames to the smaller hive. Taking it all in all, we are frank to admit that hard stubborn facts have changed our views on this subject in the last eighteen or nineteen years.

A. I. Root himself never expressed any opinion on the eight-frame hive any more than to say that when we first introduced it twenty years ago he thought it was a mistake. He believed father Langstroth was about right when he fixed the ten-frame size as the right capacity for the average colony under average conditions. A. I. Root himself has never changed from that position. In the early editions of the A B C he recommended the ten-frame hives. We began our work of revising the A B C in 1887. —ED.]

BEES OF AFRICA.

A Newly Published Work.

BY BURTON N. GATES.

In a monograph entitled "Die Bienen Afrikas nach dem Stande unserer heutigen Kenntnisse,"* by Dr. H. Friese, the noted European authority on bees, is presented, according to a review of the work by Prof. W. M. Wheeler, in *Science*, Vol. 31, No. 798, pp. 580-582 (April 15, 1910), "practically all that is known concerning the Ethiopian apifauna."

"In all, 777 species of bees are enumerated . . . . The introductory part of the work will interest the student of geographical distribution, since it contains a number of maps showing the ranges of some of the more characteristic genera of bees, both in Africa and other parts of the world."

According to the data presented, it is of interest to biologists to note, as Professor Wheeler points out, "that the Ethiopian region, though it may actually possess as many as 1000 to 1200 species of bees, according to Friese's estimate, has a much poorer apifauna than Europe. This bears out the author's statement that bees are not really tropical insects, but have their optimum area of specialization in the north temperate zone." There must have been, then, during geologic time, a migration into the tropics.

Concerning the social bees of the Ethiopian region, their are "29 species of *Trigona*, the honey-bee, and four of its sub-species and varieties (*Apis mellifica; A. unicolor-adansoni, unicolor-intermissa, unicolor-freisei*, and the typical *unicolor*). The bumblebees (*Bombus*) are absent from the Ethiopian region, though they are known to occur in tropical South America.

College Park, Md.

*Zoologische und anthropologische Ergebnisse einer Forschungsreise im westlichen und centralen süd Afrika ausgeführt in den Jahren 1903-1905, mit Unterstützung der kgl. Preuss. Akad. d. Wiss. zu Berlin von Dr. Leonhard Schultze. 2 vols.; 475 pp.; 2 pl., 19 charts, and one text figure. Jena: Gustav Fischer, 1909.

LIFTING MADE EASY.

How the Hard Work in Connection with Managing an Apiary May be Simplified.

BY HARRY LATHROP.

Miss Candler tells us, in *Bee-keepers' Review* for January, that "it seems a surprise to some people to find a woman who is a bee-keeper," and that it surprises her that they should take that view of it. In the course of her excellent article she discloses the reason why people look at bee-keeping as a work not exactly suited to women. She says she has worked too hard at times, and that lifting is the hardest part of bee-work for women.

I don't believe that being a woman necessarily involves physical weakness; but it is a fact that the average woman is not as strong as the average man. There is, however, such a thing as making up for the lack of physical strength by intelligence, by taking advantage of every situation that calls for physical exertion, and by using it as an aid to greater efficiency.

It was my fortune (or misfortune) to be built on the rather light order. My usual weight, in good health and ordinary dress, is 135 pounds. All my life since boyhood I have had something to do with lines of work that required lifting and handling heavy things. I began, when 18 years of age, to run a one-horse dray in a village. In this service I delivered trunks to upper rooms, helped carry cook-stoves upstairs and down, and delivered barrels of syrup and heavy packing-cases to the stores. Being light in weight I soon learned how to take hold of things so as to handle them easily and avoid straining myself.

After the dray business I have had years of handling freight and baggage at different railroad stations. In all my draying experience I was never hurt except once, and that was when a friend helped me to unload a cask of syrup in front of a store. In some manner one of my toes got under the edge of the barrel and was crushed. If my friend had allowed me to handle the article alone I would not have received the injury.

I always wanted to take a course of physical training in a gymnasium; but having no opportunity to do so I conceived the idea of using my daily work as a sort of gymnasium training. The plan worked well. There is an immense power in mind—the will—the mental attitude we assume toward a task. Go into the gymnasium and see how the skillful athlete takes hold of his work. The lifting of heavy weights or other difficult feats of strength is a joy to him, because he goes at it in the right way. So when I have to lift or move a heavy object I consider that I am in my gymnasium, and that the doing of the task in the right way is to train and benefit me.

There are certain rules to be observed. Whenever you take hold to lift, always lift on a full breath. Fill your lungs as full of

air as you possibly can, and hold it while making the tug. Look well to your footing; see that your feet are planted squarely; or if you are to walk with a burden, see that the path is clear to avoid stumbling. If you are not certain of your path, and can not watch it, slide your feet along and feel the way. In this way I have carried heavy hives down hill in the dark and never a stumble. Always keep balanced; think of the skill of the rope-walkers. They understand this balancing business to a finish, and there is a lot in it.

With me the work in the apiary has not been difficult. I lift every thing that it is necessary to lift. I carry the hives in and out of the cellar alone, and often carry in some double-deckers—that is, when wintering in two, eight, or ten frame bodies.

Last fall while duck-hunting I carried a 200-pound man across a shallow branch of the Wisconsin because I had rubber boots, and he feared to get wet feet. As the footing was quite firm I found it a very easy task compared with some lifts.

I am not trying to establish the fact that I can lift unusually heavy weights, but that I can do the lifting in the apiary without injuring myself or being compelled to say I did work that was too heavy for my strength.

There are tasks beyond my strength; and if I should take hold to lift the honey-house the effort would not hurt me, with my method of procedure. I would simply cease my effort to lift the object, and immediately begin to plan some other way to accomplish the purpose.

In addition to the directions given for lifting made easy, I would say, avoid nervous jerky motions. Avoid a wrong attitude of mind toward your work. Learn how to get real rest by entire relaxation of the muscular system. It requires only a few minutes to regain a feeling of buoyancy after a hard tug if one goes at it in the proper manner.

I hope that Miss Candler and many other lady bee-keepers may get hold of a useful hint or two from the foregoing. The thing that I wish to impress is that any one can work at bee-keeping without danger of strain or injury if he is careful to apply the principles I have sought to convey.

Bridgeport, Wis.

CANNING FRUIT WITH HONEY.

Can What You Can.

BY MRS. H. K. BEARD.

Read before the Pennsylvania State Bee-keepers' Association at their meeting last September.

There is no mystery or luck about the successful canning of fruit. If properly done, failure is almost out of the question. The fruits or vegetables should be barely ripe, never over-ripe, perfect of their kind, or at least with no fermentation started in them, and the sooner they are taken from tree or garden and sealed up in jars the better. New fruit-jars are best put over the fire in cold water to cover them, brought slowly to a boil, and slowly cooled; then they will stand greater extremes of heat and cold.

If particular about keeping the fruit in shape, or where a large amount is to be done at once, it is usually put uncooked into the jars and covered with the honey. The jars are then set into a larger boiler with a perforated rest under them to keep them from the bottom. Fill the boiler with cold water nearly to the shoulders of the jars. Screw the tops on rather loosely; put the cover on the boiler and bring to a boil. Both fruit and vegetables can be done up in this way. As a rule the latter is more difficult to keep than fruit, and require much longer cooking.

Twelve quarts of raspberries require two quarts of honey. Put two quarts of the fruit in the preserving-kettle and heat slowly on the stove. Crush the berries with a wooden vegetable-masher and spread a square of cheese-cloth over a bowl and turn the crushed berries and juice into it. Press out the juice and turn it into the preserving-kettle. Add two quarts of honey and put it on the stove. When the syrup begins to boil, add the remaining ten quarts of berries. Let them heat slowly. Boil ten minutes, counting from the time they begin to bubble. Skim well while boiling. Put in cans and seal.

Of cherries, take six quarts, 1½ quarts of honey. Measure the cherries after the stones have been removed. Pit them or not, as you please. If you pit them, be careful to save all the juice. Put the honey in the preserving-kettle over the fire until it simmers. Put in the cherries and heat slowly to the boiling-point. Boil ten minutes, skimming carefully.

Of pears, plums, and peaches, you take the weight of the fruit in honey. Plums should boil about fifteen minutes; peaches and pears, from twenty to thirty.

Blackberries are put up same as raspberries.

Of strawberries, take four quarts of fruit and 1½ quarts of honey. Boil ten minutes. From the time it begins to boil, skim well.

Of rhubarb, take equal weight of fruit and honey. Boil ten minutes.

Of apples, take two quarts of fruit and one pint of honey and half a pint of water. Boil twenty minutes.

Of corn, take two quarts, cut off the ear; half a pint of honey, one pint of water, four even tablespoonfuls of salt; boil twenty or thirty minutes, then put into jars or bottles.

Of tomatoes, take three quarts, one pint of honey, three tablespoonfuls of salt; boil the same as corn.

Of corn and tomatoes, take two quarts of corn, two quarts of tomatoes, one and a half pints of honey, half a pint of water, five even tablespoonfuls of salt; boil thirty minutes, then seal.

Grape, raspberry, blackberry, cherry, plum, and peach juices are made as follows: One quart of juice, one pint of honey; boil from ten to twenty minutes.

VENTILATION AT THE ENTRANCE TO PREVENT SWARMING A MATTER OF LOCALITY.

BY ALFRED L. HARTL.

On page 691, Nov. 15, 1909, Dr. Miller discusses ventilation to prevent swarming, and the editor calls for reports. For the first few seasons I gave every colony an entrance ⅞ inch by the width of the hive. I had always been a believer in plenty of fresh air, and I certainly did not want my bees to suffer from a lack of it; but experiment and observation soon convinced me that so much ventilation was too much of a good thing. I have since concluded that ⅜ by the width of the hive is the best. I know that many will say that this will cause swarming and melted combs; but I tried this size of entrance side by side with a ⅞, and the ⅜ entrance has always given better results. I would not say that the ⅜ entrance is large enough for all localities; but it certainly is for this locality, for the reason that our swarming season comes early in April, when the weather is not yet hot and the nights are cool. We are not bothered with swarming after the honey-flow is started in earnest, provided enough super and brood room is given.

My father has kept bees as long as I can remember, and he had them in common box hives, with a ⅝-inch hole bored in one end for an entrance. Nearly every colony always swarmed in April, because he did not put on supers early enough (he neglected his bees because of the stings), and in June the hives were always overflowing with bees again during the second mesquite and cotton flow; but no colony ever sent out another swarm. Now, does not this show that bees will not swarm on account of lack of ventilation? If ventilation were necessary to prevent swarming, these colonies certainly would have swarmed, having only the ⅝-inch round entrances.

Our hives face south and southwest the year round. We have hard south winds which force the air right into the hives, and I am positive that an entrance as large as Dr. Miller uses would result in very little surplus honey. With so large an entrance there is too much space for the wind to push in, and a large number of field-bees would have to stay in the hive to maintain the proper temperature. This would surely mean a smaller honey crop. It is true that, on very sultry days, some colonies will cluster out on the fronts of the hives, especially those that are crowded for super room; but by providing plenty of supers there is never very much clustering out.

It is my opinion that a ⅜-inch entrance would hardly be large enough in a locality where the swarming season begins with the main honey-flow and lasts until the flow is on the decline—during the hottest time of the whole year. This only goes to show that there can be no one standard entrance; for an entrance that is just right for one locality is sometimes wrong for another, and the only way to decide is to try the large and small together and make careful note of the results.

Elmendorf, Texas.

THE ORANGE-TREE OF CALIFORNIA.

Is It a Reliable Source of Nectar?

BY J. O. SHEARMAN.

The article by Mr. Powell, on page 709, Nov. 15, 1909, seems to me rather one-sided, as *locality* has much to do with the question, even if the word *is* worn out. I take it Mr. Powell lives near Riverside, where the ocean fogs do not hang on all the forenoon, as they did here near Pomona last season. And while the fog hangs on there is but little honey gathered. So through a larger part of the orange yield the bees did not do much in the forenoon in *this* locality, or at Corona, or between here and the coast. Near Riverside or San Bernardino the fogs do not last so long, and sometimes do not reach there at all when they do *here*.

We had just four days this last season when the weather conditions were ideal for honey, and then every thing seemed to be wet with it. Big colonies that were ready filled up in four days. Smaller ones stuffed their brood-combs with nectar, not thick honey. The teams, where they had to cultivate, were wet with nectar, and so were the harness, so my neighbors here told me, and so they told me four miles east of here. But that is not always the case.

After large tracts have been irrigated near an apiary the nectar will be thinner for a few days; and toward the end of the orange-flow, when weather is quite warm, the honey will be fit to extract the day after it is gathered—i. e., usually, but not always. In short, the orange-tree is a profuse yielder of nectar, and beats basswood about 30 days if the weather is just right.

I have said nothing so far about why bee-keepers do not put enough bees near the orange-groves to gather all of that nectar that often goes to waste. First, they do not know when a phenomenal flow of honey will come, as such a flow does not always occur in every season, although every season yields some honey; and, generally, some time in the month or so that orange blooms freely, there is a time when it comes in quite freely for a few days—three or four may be, and then at times only in the afternoon. Then as to *locating* near orange-groves. In the best places, where orchards are close together, and no room between, the owners of the orchards will not allow a stand of bees to be on their land, and there is no room but the highways for miles at a time. Then, after the orange-flow is over, nothing comes in for several months, then only a dribble of dark honey, pepper, or hoarhound.

Pomona, Cal.

Heads of Grain

from Different Fields

The Need of Shade Depends upon the Weather and on the Time of the Honey-flow.

On p. 360, June 1, Mr. G. A. Barbisch, of La Crescent, Minn., gives his opinion regarding shaded hives. I feel confident I can explain why he obtained more honey from the shaded colonies. I had 60 colonies under observation in my yard during the season of 1909, several of which were shaded the greater part of each day, some during the noon hours, and about 40 colonies in the sun all day. Those in hives that were shaded (by apple-trees) stored practically as much honey as the others. It was an unlooked-for result, but can be explained by the peculiar weather conditions and the time of the honey-flow. We had a severe drouth in this section during the entire honey season in 1909, and the best of the nectar was available to the bees during the ten days prior to July 3. During that period we had an extremely hot spell of weather, and the shaded bees were able to work: but those in the sun, even with shade-boards for protection, deserted the supers and clustered outside during the middle of the day. As La Crescent is only about fifty miles from this point the weather conditions and honey-flow were probably the same as here.

With the passing of each season I realize more fully the importance of observing carefully the peculiarities of the weather, and also the growth, appearance, and profusion of honey-bearing plants; and by working the bees to conform to those conditions we can greatly increase our crops of honey, and at the same time keep the bees in better shape.

IS IT BAD POLICY TO INTRODUCE A QUEEN TO A FULL COLONY?

I should be pleased to have the experience of the editor, as well as of others, concerning Mr. Alexander's rule, never to introduce a queen to a full colony. If in such cases they are superseded in a short time, why have we not heard of it before?

Chatfield, Minn., June 6. J. J. KADLETZ.

[You are quite right in your opinion that the question of whether shade is detrimental to the bees or not depends upon conditions; but we may put it down as a general rule that excess of shade throughout the season is more often detrimental to colonies than too little of it. In very hot weather shade does no particular harm; but during the spring and early summer, especially on cool or chilly days when the sun shines, shade does more harm than good.

Mr. Alexander's experience has not been the same as our own. We have made it a practice for years to introduce queens to powerful colonies, and during all of that time have never seen any bad results follow. We are doing it so constantly, every day, that we are of the opinion that either Mr. Alexander's special locality or strain of bees must have been responsible for an experience that is so totally different from ours. So far as we can remember, no correspondent who has ever written has said any thing that would go to show that it is not advisable to introduce to a strong colony.—ED.]

Transferring.

I have a hive of bees located on a box; and to prevent a swarm from the colony escaping I clipped the wings of the queen. A little time ago a swarm emerged from the hive: but knowing that the queen could not go with the swarm I paid but little attention to hiving them. They finally returned, as I supposed, to the hive; but I have since found that they discovered some holes in the box under the hive, and the queen evidently must have gone in there, as there are now active operations in the box as well as in the hive above. In other words, the queen got the best of me in spite of her clipped wings. Now, how can I best get the colony out of the box? I have heard that a correspondent of GLEANINGS described a method adopted by him in getting bees in bee-trees to leave the trees and take up their abode in hives provided for them, even carrying the honey in, too, which they had previously stored in the trees. I have thought that perhaps his method could be applied here, and that you could refer me to the issue of GLEANINGS detailing his method. If so I should be obliged for the information.

Lowville, N. Y., June 25. R. B. HOUGH.

[While it is possible to get bees out of bee-trees without cutting the tree, yet we would advise going after the bees in the box in the good old-fashioned way; namely, blowing a little smoke into the entrance of the box, prying the side off, cutting out the combs, and fitting them into regular standard frames. If you do not like the messy job of cutting out the combs, drum two-thirds of the bees out into an empty box. Remove the box from which the bees have just been removed; then turn it half way around so that the entrance will point in the opposite direction, and then put a hive in the place where the box stood with the extrance facing the direction the box did. Dump the bees from the other box in front of it, then in 21 days drum out the remaining bees from the old box. If you succeeded in getting the queen at the first drive, cut out the combs and melt them up. This latter plan is known as the Heddon short way of transferring. In this particular case, however, you can, if you desire no increase, put the hive that was on top of the box down on the ground and let the first drive of bees run into it.—ED.]

A Good Plan for Coaxing Bees into Supers.

I am trying a plan to induce bees to start work in the supers. Some swarms seem to hesitate about going up to work. I have a lot of frames, made the same size and shape of the section-holders. I place supers full of these frames on my strongest colonies early in the season, let the bees draw out the foundation, start a little honey, then remove the supers, taking one frame, placing it in the middle of each of my section-supers, and placing that super on the colonies that are flying off. So far the plan has worked well. The smell of that fresh drawn comb and new honey seems to give the bees courage. While some are finishing the frame, others are at work in the sections near by. The frames of honey not needed for baits are valuable for fall feeding.

Theresa, N. Y. B. J. WORSLEY.

[This plan is somewhat similar to the Townsend plan of producing comb and extracted honey in the same super, although, if we remember correctly, Mr. Townsend has one shallow frame at each side of *all* his comb-honey supers. We know that these ideas are practicable for the comb-honey producers because we have tried them.—ED.]

Does the Use of Fertilizer Prevent the Secretion of Nectar from Buckwheat?

Some people of this locality say that bees will not work on buckwheat on which commercial fertilizer has been used. Is this so? We intend to raise about 14 acres of buckwheat this year, which will be about half a mile from the hives. I put full sheets of foundation in my frames and wired them, but did not imbed the wires. Will the bees draw it out the same as usual?

Halcott Center, N. Y. CHAUNCEY E. KELLY.

[We never heard of such a thing as commercial fertilizer or fertilizer of any kind preventing a secretion of nectar from buckwheat, and we do not believe there is any thing in it. If any of our subscribers believe otherwise we should be pleased to hear from them.

The bees will draw out the foundation; but unless the wires are imbedded there is a possibility that the bees may gnaw around the wires.—ED.]

An Interesting Experiment; Blowing Bees off Combs.

Some time ago I put in an air-pump and tank to blow the bees off combs instead of brushing them. I tried several pressures, and at last ran the air-pump to 100 strokes a minute. I thought I had the plan down fine, so I hooked on a long hose, ran it out in the bee-yard, took out a comb loaded with bees, and turned on the air. The bees were all blown off slick and clean. Every thing worked finely so far as the bees were concerned; but I saw at once that I had a honey-extractor too. When the air was strong enough to blow the bees off, the current across the combs took all the uncapped honey out of the cells in a fine spray, blowing it

over the hive and grass. I tried it on several hives, but all the uncapped honey was wasted. The plan will not do in mid-summer, when there is more or less thin honey in the hives. I think it might get the bees off combs, since all cells would be sealed; but bee-escapes are cheaper and handier. Finally I took the apparatus down, adding one thing more to the junk-pile, but not until a lot of wind had been blown out of my head.

Mayfield, N. Y., April 24. G. W. HAINES.

Twentieth-century Methods.

We know you are always on the lookout for new things, ideas, and methods in beedom. I have found something to-day that may please you, as his description is certainly complete.

Prairieville, Ala., Feb. 19. W. D. NULL.

Editor Ruralist:—The following suggestions may be of some help to your readers. The best way to make a bee-gum is to have it 28 inches high and 10 by 12 inches inside, and make a partition 18 inches from the bottom, say 10 by 10, and leave a crack an inch wide so that the bees can pass through. Saw the back plank in two at the partition, and do not nail the head of it, for you want to keep that place in which to rob. Do not take off the head; and if the gum is not rich, tack the piece back, and do not break the honey, for that bothers the bees. When you rob, be sure not to break the comb loose below and let it fall. You can rob better at the side, and do not drive the bees. Just take off the bottom piece and rob below the partition, and they will stay, as they have honey above.

Hiving bees is an easy matter. Make a brush broom. Have it so the bees will not fall through, and rake off from the bottom until the bees begin to settle on the brush, and then shake or smoke them off the place they have settled on. Take them to the gum and place them on top; rake off a few into the gum, putting on the head, and then rake some off at the mouth of the gum, and they will soon go in without any raking off at all. All you will have to do is to shake them off the brush.

To take bees out of a tree, cut a pole long enough to reach up to them; tie a rope to the middle of the pole, and put it over a limb, fastening it so that you can press down on the end till the brush reaches the bees, and then take them off as I have mentioned, lowering the bees with a rope slowly. Hive a little more slowly, as they may want to go back. Always use fresh brush.

If a gum does not work, the queen is dead, and I put a new swarm in. They fight, but that does not make any difference; and when I put two small hives together they do better.

I have got as high as 60 lbs. of honey in one year from one gum. I rob till September, but I always leave part of the honey, and I rob any time they get rich.

Bees always come back when they get starved out, and they swarm here till September sometimes.

I have had bees twenty-one years, and I had the first ones to swarm and go in again this year, and this fall they came back and settled together, till there was half a gum full. I hived the 6th of October, and they are living yet.

Penn, Miss. A. W. SHAW.

[Yes, this is indeed a complete description of—a degenerated form of even box-hive methods. If our friend manages in this way after 21 years of experience we wonder what he did when he was a beginner.—ED.]

What Time of the Day is the Best to Form Nuclei?

At what time of day would you divide your bees—at noon, or when they are all in the hive late in the afternoon? Would some cloudy day be preferred? It seems to me that, in doing the work of dividing bees (that is, artificial swarming), during the sunshine the bees are out too much to insure success. How far advanced should the queen-cell be before attempting it? How long before it is uncapped? or at what stages of development of the queen-cell? I do not find these in any of your literature.

MRS. SUSAN E. ALLEN.

Wheelerville, Pa., June 7.

[It is usually a good time to form nuclei along during the middle hours of the day when the old bees are out of the hive. The bees that are then carried to another stand will be mainly young ones that will stay where they are placed. At other times, or when bees are not flying briskly, take more bees over to the other stand than will be needed there, because some of them will return to the old hive.

In forming nuclei it does not make much difference what the stage of growth of the queen-cells is. —ED.]

Division-boards Made of Tin to Prevent the Bees from Propolizing Them Fast.

Very often, after the honey-flow, it is difficult, if not impossible, to remove ordinary wooden division-boards with followers from the hives. However, I have overcome the trouble, for I make mine of tin, and they have proved so satisfactory that I have made more and more of them in this way until I have equipped practically all of my hives.

I find one sheet of tin costing 15 cts. will make three division-boards. Cut the pieces as long as the length of the top-bar, and as wide as the frame is deep. Then fold the top of the tin down flat about $\frac{5}{8}$ inch from the edge. Then grip the fold about $\frac{5}{8}$ inch from the top, and fold again. This makes a rigid top-bar. Now cut in under the top-bar at each end, and fold the metal back far enough to make the follower the same length as those made of wood. These will last a lifetime, and be a constant source of satisfaction.

HOW TO PREVENT AFTER-SWARMING.

After-swarming is a nuisance; but it may be prevented and some honey secured at the same time. Hive the first swarm on the old stand, either in a new hive, removing the old one, or in the old hive after removing the old brood-frames, with the exception of one containing some young brood and honey. Cut out all queen-cells, if any, and take the rest of the brood-frames, just removed, to a hive on a new stand, after shaking off all the old bees. Close the entrance tight, so no bees can get in or out for 24 hours, then open it just wide enough so one bee can pass through. Keep enlarging the entrance a little each day until the colony becomes strong enough so that it may have the whole width of the hive, which will take, as a rule, from one to two weeks.

In this way there will be no after-swarming, and the whole force of workers can be left at the old stand.

Cedar Springs, Mich. S. FARRINGTON.

[A metal division-board in cool or cold weather would be a good conductor of heat, and, therefore, during some parts of the year, would be too cold to put next to a cluster of bees.—ED.]

How to Get Rid of Laying Workers.

Referring to the article by Allen Latham, page 345, June 1, I will say that, whenever I find drones in worker-cells, I call it the work of laying workers, or of a small virgin, the result being the same. The main question is, what is the best way to get the colony in a normal condition?

When I find a colony having drones in worker-cells I carry the hive about a hundred yards from the apiary and dump every bee out on the grass. I take care to get every bee off the combs and from the inside of the hive, and then carry the hive back to its place again. An inferior queen or laying-workers will, in this way, get lost, not being used to going out of the hive; therefore there is no need of making a search.

Arroyo Grande, Cal. M. D. PRICE.

[This plan of treatment has been mentioned before; but is it not possible that a laying worker might fly back?—ED.]

A New Advantage of the Flat Wrappers of Bee-Journals.

Ever since the present style of wrapper has been coming on GLEANINGS I have been pleased with it. When my copy comes I always write the date on the wrapper before removing it; then when I find an article that I might wish to refer to I write it on the wrapper. I keep all the wrappers; and when GLEANINGS is read through, as I always do, I slip it back in its nice cover with the important articles recorded in index style so I can pick it up and look it over without taking it out of the cover to hunt up the pages.

Fairmount, Ind. LEWIS HOCKETT.

Our Homes

By A. I. Root

Glory to God in the highest, and on earth peace, good will toward men.—LUKE 2:14.

They shall beat their swords into ploughshares, and their spears into pruninghooks: nation shall not lift sword against nation, neither shall they learn war any more.—ISA. 2:4.

Some years ago Drummond gave us a bright little book entitled "The Greatest Thing in the World." And what do you think it was? Love, love for all humanity; just the kind John had in mind when he said "God is love." I do not know but Drummond might put it "the *best* thing in the world." Well, just now I have in mind discussing briefly the *worst* thing in the world. What is it that needs attention more than any thing else or more than any other one thing, that humanity may be protected, and that everybody may have a square deal—that is, so far as such things are possible? Well, it has been said over and over again that the worst thing that afflicts the world and humanity just now is the liquor-traffic; and, may the Lord be praised, the whole wide world is waking up; and not only that, it is *doing* things. Perhaps I had better say *we* are doing things, for the United States has the credit of making the start. Only yesterday I clipped the following from the *Chicago Advance:*

PROHIBITION IN SWEDEN.

Judging by a vote recently taken, Sweden is very much opposed to the liquor traffic and in favor of prohibition. The question voted on was the entire prohibition of the liquor-traffic in Sweden, and the vote stood: For prohibition, 368,904; against prohibition, 8777; neutral, or declining to vote, 52,612. Clear majority for prohibition, 307,525. Even in Stockholm, the capital city, the majority for prohibition was 59,511 in a total vote of 131,381.

It seems everybody was astonished (even the people who voted) to find in every part of that nation, city as well as country, that things had changed so wonderfully that the sentiment of the people at large was overwhelmingly in favor of banishing intoxicating liquors.* It made me think again of that glorious old hymn,

Hail to the brightness of Zion's glad morning.

Well, the liquor-traffic may be the worst thing in the world; but there is another thing—another awful wrong that is almost world-wide. Let me give you a clipping from the *Woman's National Daily:*

We are building great battleships, two of them a year, costing $10,000,000 each, and are paying $1,000,000 a year to maintain each one, and I wish that the money expended in building just one battleship could be devoted to intelligent agriculture.

Well, now, if the above is not exactly true it is pretty nearly so. Ten million dollars for a great war-ship that will probably never be made use of! All that money, all the brains employed, are to go into the scrap-heap; and after it is done it is going to cost *another* million of dollars for caring for the great institution *for just one year.* Who pays for these great war-ships? who furnishes the money? Just recently there has been a great deal said about its costing so much to live. Our boys are made dishonest, and our girls are tempted to something a thousand times worse, just because they can not earn enough to procure daily food. I do not quite agree with this, and yet there *is* something in it. Once more, a lot of poor people have saved up a little against a rainy day. They have been wanting to deposit it somewhere; but so many have lost their hard earnings —yes, washwomen and hired girls have been swindled out of their careful savings so many times by so-called millionaires—that these poor hard-working people are at a loss to know where to put their money. Just now I can say, God be praised, for we have, finally, postal savings banks. Of course the interest is not much—perhaps 2 or 2½ per cent; but the money is absolutelv safe. In discussing the matter here in our town of Medina a few days ago I was told that, while our savings banks do pay 4 per cent, if you live inside of the corporation the town taxes will amount to about 3 per cent; so the washwoman or hired g rl has been getting only about one per cent for the use of her money —that is, for putting her money in the bank against a rainy day. I asked the question why it was necessary to tax these poor people so much. The reply was that it was for the various improvements in town, educating our children, and other good and praiseworthy purposes. The taxes which we pay cheerfully and honestly—at least the most of us do—are for the general good of the sons and daughters of America. My informant said, further, however, that the great burden of taxation falls on people who have money deposited somewhere. Men who have millions invested in various enterprises do not pay any thing like the taxes paid by those who have a little real money. The trouble is, Uncle Samuel has not been able, as yet, to get any spectacles that will enable him to see *who* owns every thing so he can look into the matter, and also see how our millionaires, big trust companies, and great railway combinations list their property in order to pay taxes like the wash-woman and hired girl. Let me digress a little.

I have lately expressed my joy to hear of the good and wise measures that are being taken now to save human life. Our schoolchildren and the babies (God bless them) during the past heated term in our great cities have received ice free of charge wherever it would help to save their lives. God

* Our stenographer, Mr. W. P. Root, suggests as follows:

This is the more striking, as Sweden has for many years made use of what is called the Gothenberg system, whereby the liquor-traffic was entirely in the hands of the government; and the defenders of governmental regulation have made a great deal out of this system as being something that would eliminate the profit going to the individual saloon-keeper and throw all the proceeds into the lap of the big saloon-keeper, the government itself. Now that this one crutch is knocked from under the arm of the tottering beer god it makes one wonder what is coming (or going) next.

bless the babies, and our kind old Uncle Samuel for his thoughtful care.

It has just been my pleasure to make a small contribution to the fresh-air campaign to give the children from the cities a little outing. Well, while we are doing such tremendous things to save human life, how in the world can we consistently take measures to murder our people by the wholesale, and still mean to keep doing it? Somebody has said (perhaps it was Dr. Kellogg, in *Good Health*) that more stout capable young men lost their lives by typhoid fever in the recent Spanish-American war than were killed by the enemy. Those who were not killed outright were injured for life more or less by those terrible fevers, and much of it was caused by sending our soldiers where they could not have or did not have wholesome water to drink and wholesome food for their sustenance. Right here I can say, praise the Lord again for what the Health Commissions of our land have done to punish the wretches and villains who would poison our people for the sake of making a few more pennies on the food products they put up. May God speed the day when those who deliberately tamper with our daily food (either for babies or grown-up people) shall be punished so severely that they will remember the lessons as long as they live.

On page 1017, Aug. 15, 1908, I quoted an article from the *Christian Endeavor World*, headed "Let us Quit being Hypocrites." Let me make one extract from that:

> Instead of building more war-ships, isn't it time to call a halt? With tens of thousands of our citizens begging for an opportunity to earn a living, isn't it time to call a halt on this wicked waste of money and energy? If we are going more and more into the war-ship business, let us be honest and pull down our churches. If we are to glorify war, let us quit glorifying the Prince of peace. Let us quit being hypocrites.

In reply to the above I wrote the following:

> Let us quit being hypocrites, as the San Francisco *Star* has it, and come out in the open, and demand that this war-ship business be stopped in exactly the same way that we, as a people, not only demanded but *succeeded in getting*, the motto back on our coins, "In God we Trust." And *if* we trust in God we certainly do not need to invest 180 millions of dollars in one fleet of warships.

Yes, friends, for God's sake let us "quit being hypocrites."

And now I want to tell you that the above is only a preface to something *else* for which we can praise God. It seems we have a society in the city of New York, with headquarters at 507 Fifth Ave., called the New York Peace Society, and this is a world-wide federation. A leaflet is now in my hands from that society, whose heading reads as follows:

> RESOLVED, by the Senate and House of Representatives of the United States of America in Congress assembled, that a commission of five members be appointed by the President of the United States to consider the expediency of utilizing existing international agencies for the purpose of limiting the armaments of the nations of the world by international agreement, and of constituting the combined navies of the world an international force for the preservation of universal peace, and to consider any report upon any other means to diminish the expenditures of government for military purposes and lessen the probabilities of war.

Now, the thing that took hold of me mightily in the above resolution is in the last two lines. You will notice this commission is not only to preserve universal peace, but it urges a movement to discuss and report "upon any other means to diminish the expenditures of government for military purposes." As I understand it, the powers of the world are invited to meet together and see if we can not mutually agree to stop building war-ships that cost ten millions of dollars each. We are told in that circular that Emanuel Kant declared, in 1795, "We can never have universal peace until the world is politically organized;" and, furthermore, that even this can not be done "until the majority of nations have a representative form of government." And all of these things seem to be coming to pass.

Let me quote again:

> Russia has its Duma; China has announced that shortly it will promulgate a constitution, while Turkey and Persia have each just gone through the throes of revolution and emerged with a vigorous parliament. If Kant's philosphy is sound, therefore, the world is at last ready for world organization and universal peace.

I should like to give place to this whole paper, but it is too long. If you will send a stamp to the National Peace Society, whose address I have given above, I am sure you will get it.

There is one other thing I want to quote; and while I quote it I should like to swing my cap and give a vigorous hurrah for Roosevelt.

> Even Mr. Roosevelt in his remarkable Nobel peace address the other day at Christiania goes so far as to urge a "league of peace" to abolish war, paradoxically, by force if necessary.

The idea expressed above, of abolishing war by force, sounds almost like a joke; but I hope it will not require a $10,000,000 man-of-war to compel obedience to the mandate, "You must stop fighting." Let me quote further:

> It seems the destiny of the United States to lead in the peace movement. The United States is the world in miniature. It is a demonstration that all the races of the world can live in peace under one government, and its chief value to civilization is a demonstration of what this form of government is.

There is a big point in the above. For many years back, whenever I have felt disposed or strongly inclined to speak in a disrespectful way of the foreigners who have come to live among us, my conscience has almost always warned me to be careful. This nation is made up of people from all countries, just as we are told the "kingdom of heaven" is composed of all nations; therefore we should all be very careful lest we tread on somebody's toes or hurt somebody's feelings. It occurs to me that we "old Yankees," as we sometimes call ourselves, need to be especially careful in this respect. I, above all men, ought to be careful, for the dearest friend I have on earth came from "Merrie England" when she was only eight years old. May God be praised that she *did* come and consent to

stand by my side that she might check and reprove me whenever I might be inclined, in my vehement and pushing way, to speak disrespectfully of *any* of my fellow-men, no matter where they were born or brought up.

This paper says further, "It seems to be the destiny of the United States to lead in the peace movement." May God help our country to be up and dressed, and ready for the work. This paper further says, "In our history no man has done more to spread the gospel of peace than the two Pennsylvanians, William Penn and Benjamin Franklin." Bless the memory of those two great and good men. Are they all dead and gone? Not quite. Read the following:

> Coming down to more recent times it is probably a fact that the late Frederick W. Holls, of New York, had more to do with the establishment of the Hague Court than any one else, while Mr. Carnegie has given it a palace in which it shall hereafter sit.

May the Holy Spirit bless our Mr. Carnegie; and may he get his sleeves rolled up and get right into the work for peace. God grant that he too shall eventually, come out under the banners of the Prince of Peace, whose advent was announced in the words of our text, "Peace on earth."

If I understand the paper correctly, our present President, Mr. Taft, is also in favor of this peace movement we are talking about.* He is a big man in many ways; and if we as a people can not stand back of him and follow in his wake, especially for peace, we ought to be ashamed of ourselves.

I wish to quote the concluding paragraph of that leaflet in closing:

> If the world federation commission is appointed by the United States government with Theodore Roosevelt as chairman, can any one believe that the day will not be brought measurably nearer, when, as Victor Hugo prophesied in 1849, "the only battlefield will be the market opening to commerce, and the human mind opening to new ideas"?

And finally, brethren, is it not about time for us to "quit being hypocrites"?

Ex-President Roosevelt, in his address about "abolishing war by force," calls to mind a little incident. By the way, I have several times noticed that it is often a dangerous piece of business to undertake to act as peacemaker. Only a few years ago a couple of men on the streets of Cleveland got to fighting. I do not know but it was a sort of race war. A third man came along and commenced to remonstrate; and he finally undertook, as Roosevelt expressed it, to abolish *war* by *force*. As he did not succeed very well he called on a fourth person to help him stop the two neighbors fighting. In a little time, instead of a fight between two it was a fight between four. Some more neighbors joined the crowd, and they likewise tried remonstrance, and got into the fight themselves, and pretty soon there were a dozen or twenty fighting like cats and dogs, shooting promiscuously in the crowded streets, and wounding several bystanders; and the saddest part of it was that not more than two in the whole lot knew what they were fighting about *unless* they were fighting for "peace." A policeman, however, who had *authority*, finally succeeded in quelling the hubbub. But there were many sore heads and some bleeding noses before the end came. Now, this was a small private affair that was ended in perhaps a small part of an hour. What would be the result, pray tell me, if such a thing were to occur among *nations?* Where could we find a policeman clothed with sufficient official authority and something else to back him up so that he might say as did the dear Savior to the discordant elements, "Peace, be still"? And by the way, dear friends, is this world federation, of peace on earth (and good will to men) to be under the dominion of "the Lamb of God that taketh away the sins of the world"?

I had not intended even to mention the celebrated prize-fight; in fact, the above was in type before the fight occurred. It *did* occur to me, however, that the fight was a good deal in line with the $10,000,000 warships. There was this difference, however: The making of the ship required mechanical skill and the benefits of modern science; whereas the prize-fight required nothing of the kind. We all felt sad when the shameful affair was permitted to take place *anywhere* in the United States; but as a colored man won the battle—a man without culture or intelligence, if I am correctly informed—the whole affair may, in God's providence, turn out to be a wonderful object-lesson.* If one of these prize-fighters should test his strength with a mule, people would think he had gone crazy; and may be this event may have the effect of bringing some crazy people to their senses. The conflicts now before the world can not be settled by brute strength (which comes largely by accident), nor even by scientific attainments and mechanical skill, but by something along the line of that beautiful text in Zechariah, which says, "Not by might nor by power, but by my Spirit, saith the Lord of hosts." If the world should decide to encourage and uphold prize-fights, then we might go on in the strife to see what nation could build the most effective engines for *murdering* our sons and daughters; bu if our greatest and highest aim is to *save* life, and to find how we may most success-

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*It is expected that ex-President Roosevelt will be named by President Taft as chairman of the commission authorized by the joint resolution of congress to report to congress the plans for permanent and world-wide peace, thereby relieving the nations of the burdens of armament.—*Cleveland Plain Dealer.*

*While the white man was badly pounded and bruised, the colored man escaped with only one very slight bruise; for his opponent, with all his skill and training and backing, was hardly able to touch him at all. If the outcome shall result in lifting all humanity to a higher and better level we can all join in that beautiful little hymn that they are still singing in that little church amid the hills of Northern Michigan:

> Lord, lift me up, and let me stand
> By faith on heaven's table-land—
> A higher plane than I have found—
> Lord, plant my feet on higher ground.

fully fight *sickness*, *pain*, and *death*, then we want to put our money into something better than prizefights or even war-ships, and strive to use it in some way so it will be "treasure laid up in heaven."

The above talk about war and prizefights recalls to mind some lines my mother taught me when I was just learning to use words. So far as I can recall they run something like this:

Let dogs delight to bark and bite,
For God hath made them so;
Let bears and lions growl and fight,
For 'tis their nature too.

But you, dear children, should not let
Your angry passions rise;
Your little hands were never made
To tear each other's eyes.

THE SHAME OF OHIO.

On p. 361, June 1, I said, "God knows how I dislike the very thought of war; but if nothing but war will stop this awful traffic I should like to see war come." Little did I think, as I dictated the above, that a liquor war would so soon be opened up here in our fair State of Ohio. I have space here only to review the sad events briefly.

Licking Co., O., voted dry. Newark, the county-seat, was wet, and voted to remain wet. The county voted against the wicked city, and the saloon-keepers and speakeasies massed themselves together and decided to disobey the law. Knowing that they would make a resistance the Anti-saloon League sent *twenty* picked men, duly empowered by law to compel those rebels *against* law to stop their liquor-selling. A mob was soon raised to resist the officers, and in the melée a saloon-keeper was shot. To protect the detective from the violence of the mob he was placed in jail. The mob kept increasing, and finally declared they would tear the jail down unless the doors were opened, and for two hours they besieged the jail. But the mayor, like too many other mayors, was in sympathy with the wets, and he did nothing or next to nothing to preserve order. At the end of about two hours the saloon-keeper died from the effect of the shot from the officer, whom he had cornered up and apparently intended to kill. This aroused the insane mob to a fury. They tore up a bar of railroad iron, and, using it as a battering-ram, smashed in the brick walls of the jail, took the Anti-saloon officer, and in the presence of a crowd of 5000 men, women, and children, hanged him to a telegraph-pole. There his bruised and bleeding body (for he had been badly pounded up before being put in the jail) hung for half an hour, exposed to the gaze of all. If I am correct, the mayor and sheriff finally began to consider what they had done or had permitted to be done, and took his body down, closed the saloons that had been, so far, wide open during the night, and restored a semblance of law and order. As we go to press, the papers tell us that Governor Harmon has been summoned to the spot. The mayor and sheriff have been suspended from office awaiting trial, and the Governor has made the following declaration, which I clip from the Cleveland *Plain Dealer* of July 11:

As for the lynching, the reports made to me and my own investigation have convinced me that it was murder pure and simple, a dastardly affair that could have been prevented. No such indignity to the State of Ohio can be permitted without the most vigorous efforts to punish those responsible.

May God be praised that we have a governor who is not afraid to call things by their right names, and act promptly.

When, some years ago, a whisky-crazed mob destroyed the City Hall and other buildings in our neighboring city of Akron, something like forty rioters were sent to the penitentiary. We are hoping and praying that the crazy men who trampled law under foot in Newark may meet a like punishment.

Later.—Just as we go to press, July 12, we clip the following from the Cleveland *Plain Dealer:*

Judson Harmon, Governor of Ohio, to-night decreed that death in the electric chair shall be the fate of those who defied the law and lynched a private detective in this city late Friday night. Charges of murder in the first degree will be preferred if sufficient evidence as to the identity of the mob's ringleaders is forthcoming. Gov. Harmon insists that such evidence be produced.

LAW ENFORCEMENT, ETC.

A. I. Root:—I have just been reading what you say about the opium business. It does seem hard treatment to cut off their heads; but it surely inspires a fear of the law, and cuts out all hopes of being "pardoned out" in a few days or weeks. If all our prisoners knew that they were "in for keeps" till the expiration of their term, whether a month or a life, they would have more respect for the law; and, further, if they knew that the law officers were all on the lookout for lawbreakers, and would surely do their duty in the premises, they would be more careful how they transgress. I am for a strict enforcement of the law for both high and low, and believe good would come of it.

No. Yakima, Wash. R. J. BENBOW.

"SEEK YE FIRST THE KINGDOM OF GOD AND HIS RIGHTEOUSNESS," ETC.

In the *Sunday School Times* for June 26 is a wonderful story entitled "From Three Oaks to Jerusalem and Beyond." E. K. Warren, President of the World's Sunday-school Association, when he was a young man living in Three Oaks, Mich., had charge of a little country store. He also "had charge" of a good-sized class of young men in the Sunday-school. Well, part of the trade at that country store was tobacco. Like other country towns in the lumber regions, very likely tobacco was a considerable part of the trade. Well, young Warren finally become so well satisfied that it was wrong for him, at least, in his position, to sell tobacco that he decided to cut it entirely out of their business. Here is a clipping from that article in the *Sunday School Times*. Read it and see what you think of it.

This was an expensive thing to do, of course. The clerks would come to him and say that such and such a customer had called for tobacco, and was so dissatisfied because he couldn't get it that they were afraid they would lose his trade entirely. Whenever such a case was reported to him, the store-keeper would go straight to the disgruntled man and talk somewhat as follows:

"See here, Will, does your boy John use tobacco?"

"No, he doesn't."

"Do you want him to?"

"No, Ed, I don't."

"Well, I'm working for your boy John. What will he think of me if he sees me selling it?"

And the answer was pretty likely to be, "You're all right, Ed. Keep it up; I'll trade with you."

As a boy, young Edward Warren had had an experience with drink and saloons that was a healthy one. He was brought up in total abstinence, of course; and he was given his first position in the country-store because he did not drink, his predecessor there having gone to the bad because of it. But the saloon influence was strong among his companions, and they drank beer freely. He made an attempt to keep away from the saloon which most of his friends frequented, and where the ball-and-bell game was a popular attraction in that day; but it was not easy to stay away, though when he was urged by the others to drink with them, as he constantly was, he always declined. The saloon-keeper himself, knowing Ed as a boy of standing and influence, took his part when the pressure grew pretty strong, and told them to "leave Ed alone." He even went so far as to keep oranges there, so that the boy might have them instead of beer.

But one evening when the usual crowd were together, Ed's friends had been drinking so much that they determined to have their way with him. He declined all urging, as usual. Then the crowd took him in hand. Stretching him out on the floor, which was covered with sawdust and tobacco stains, four of them took charge of his arms and legs, and a fifth poured beer as well as he could between his closed teeth, and copiously down his collar and neck.

That did not win Ed to the liquor habit, and it broke him of the saloon habit. He found that he and the saloon did not have enough in common to justify his making it even a visiting-place, and he never went there again. Not only that, but some fifty years later, during the first decade of the twentieth century, that same village of Three Oaks has had no saloons where this sort of outrage could be worked. The reason is that that boy, now grown, has made it his business to get his village rid of them. First he made it hot for the few saloons that were there, by prosecuting them for every breach of the law that they committed, such as Sunday opening and selling after hours. In this way he crowded them down in number from three to two, then to one. Finally, he offered to pay to the village board, if it would shut out that last saloon, the two hundred and fifty dollars annual license sum that it was afraid it would lose by going dry: and it accepted his offer. He agreed to give them notice any time he got tired of the arrangement and wanted to stop, so that they might go wet then if they wished. But that has been going on now for about ten years, and he has not given notice yet.

Poultry Department

By A. I. Root

THE "KELLERSTRASS WAY."

On page 400, June 15, I mentioned the way in which Kellerstrass copied from an old almanac without giving credit. Notwithstanding, I supposed that he had really taken premiums right and left all over our land for his superior Crystal White Orpingtons; that is, I took it for granted that he had, by some means or other, produced a very superior strain of fowls that our judges acknowledged were ahead of every thing else in this country or even any foreign country. If, however, he did not scruple to mislead in his great claims for his book, why should he scruple about misleading in other ways? See the following:

I have been reading your Home papers for a number of years, and am particularly interested at present in what you have published regarding Mr. Ernest Kellerstrass. It is my opinion that his customers are so well pleased because they believe he really has given them the best that can be obtained. During the past two years, more or less, the advertisements of Mr. K. contain this clause:

"As to their fancy quality, they won first at Madison Square Garden, New York, 1905, 1906, 1907, and 1908, and also at Crystal Palace, London, England, and Chicago and Boston."

I am quite sure that, were those customers to ascertain the fact that Mr. Kellerstrass had *no exhibit whatever* at New York in 1905, 1906, and 1907, and that, in my opinion, he was beaten badly in 1908, and that he has not exhibited at Boston during the six years prior to 1910, it would be a safe proposition that they would not be so well pleased. These are facts easily proven; and if one would take the trouble it could be easily shown, I think, that the gentleman *never exhibited* at the Crystal Palace.

At the bottom of page 15 of the book "The Kellerstrass Way" we find, "I have shown them that my chickens are all right for the showroom. Now I am going home," etc. . . . "Just as soon as the poultry-journals will show me that there is a breeder who has made as good a record as I did you may rest assured that I am going into the showroom, and I will beat him. If I don't I will quit the poultry business."

As the gentleman had an exhibit of 24 entries in his four classes of White Orpingtons at Madison Square Garden during the past winter, conditions must have existed which demanded his presence again in the showroom. He did not win, obtaining but one first prize with his 24 entries against 3 firsts won by the Owen Farm on 8 entries. Will the gentleman now quit the poultry business?

Lake Roland, Md., June 20. BENJ. B. JONES.

Now, if there is any mistake in the above statement, and if Kellerstrass has really, by hard work, produced a strain of fowls of such superior excellence that it is a good investment to pay not only $2.00 an egg, but even *$10.00*, to get the very best in the world, we shall be very glad to give him space to explain. If he has *not* won all these prizes it is certainly time that the poultry-journals and the agricultural papers should stop accepting his advertisements, and all unite in lending a hand to show him up in his true colors.

POULTRY SECRETS AND POULTRY FRAUDS IN GENERAL.

On page 648, Oct. 15, last year, I mentioned sending a dollar to W. R. Curtis & Co., Ransomville, N. Y., for a valuable book telling how they raised 25,000 chickens without losing more than 5 per cent. The book contained only about 12 pages besides the advertisements. At the same time, I sent $3.00 for a lampless brooder. They claimed it was a *fireless* brooder; but after I got it I learned that the chicks "needed heat of some kind for the first week or two." The brooder was a rough and poorly made box that should not have cost a dollar. At the time I showed them up, a good many of our readers thought strange of it because they were "such a big concern," etc. That valuable book, "The Dollar Hen," gives the Curtis Brothers credit of raising 20,000 chickens a year, but they say the Curtis fireless brooder costs only about *15 cents*. Well,

such a box *might* be made for about 15 cents in the rough; but to have it made in good shape, and painted, 75 cts. or a dollar would be a fair price for it. But I had to pay $3.00, and then another dollar for a badly printed little book with a dozen pages telling how to use it. Well, the *Rural New-Yorker* of July 9 gives a couple of letters of complaint from those who ordered day-old chicks from W. R. Curtis, of Ransomville, N. Y. They may be a big institution; but I think it is no more than fair that chicken folks, especially the beginners, should have notice that W. R. Curtis & Co. are more concerned about getting the dollars in their grasp than they are in giving satisfaction to their customers afterward.

THE SITTING HEN VERSUS THE INCUBATOR FOR STARTING GERMINATION.

The article below I clipped from the *Petaluma Weekly* for Jan. 22:

I once placed a number of infertile eggs that had been tested out of the incubator on the third day under a broody hen, thinking to give them to her for a short time only, and see whether she really meant business or not. I did not receive the eggs I intended to place under the hen, and no more attention was paid to her. What was my surprise when, at the end of about three weeks, she came off with about three chicks. There were eight eggs in all, and I at once examined those remaining in the nest. Four were still clear and one rotten, showing that it had started to develop.

This set me thinking, and I made up my mind to investigate further. If I was throwing out fertile eggs from my incubator I wanted to know it. I soon learned that experiment stations had like experiences, and issued statements that a hen would often start and hatch eggs that an incubator would not start, but they gave no explanation of the cause. It was not hard to find, however. It is due to the fact that the incubator heats the whole egg, while the hen applies heat only to the top next to the germ.

I am not surprised at the above. From some experiments I made I have for some time felt pretty sure that a sitting hen has some strange power to get a larger percentage of fertile eggs than any incubator—at least any incubator I am acquainted with; and if I am correct one of the poultry secrets that has been offered for sale was the plan of putting your eggs under a sitting hen for three or four days, or even a week, before putting them into the incubator. The statement was made that almost any incubator would produce a good hatch if a sitting hen set the pace or brooded over them for the first week. You may remember some of my experiments a year ago with eggs taken from a sitting hen and placed in our contact-heat incubator. They hatched out nice chickens almost every time. Since coming back to Ohio I have allowed five hens to to hatch out chickens. Three of them stole their nests; two of the three hatched every egg but one. One of the three hatched every egg, and has every chicken yet. One hen stole her nest, hatched every egg by the first of July, and never was shut up at all, and she has every chicken yet. By the way, I have two neighbors who have hatched with incubators and hens something like 500 chickens each. Both got along nicely for a while; but along in June I was asked to tell, if I could, what to do to stop the chickens from dying. Now, I am not a professional chicken doctor; but the safest and sanest thing I could think of was this: Put the hens and chickens out in an open field away from the rest, where no other fowls can have access, if possible. Let the hen run where she pleases with her chickens —of course, making sure they have good water to drink and plenty of broken grain of different sorts—say the best quality of baby-chick food. So far as I know, both the incubator chicks and those hatched under the hen have ceased dying. Where the mother hen can lead her chickens here and there until they are tired out toward the close of the day, and in a hurry to get to their roosting-place, they are under natural conditions; and where they have considerable territory to run over, this mother-hen will help them to pick out what nature demands; and much the same thing, I think, is true with chicks hatched in an incubator. Do not have too many flocks on a small area, and give them a chance to ramble to their hearts' content, and then they will, as a rule, come out all right.

The suggestion in the paragraph I have quoted, that the hen starts fertility when an incubator would not is because she applies heat only to the top of the egg, I do not think is all of the reason, however. It is right in the line, you will notice, of the idea of "contact heat." Perhaps we shall some day wrest from Nature her secrets so we can get as good fertility by means of the incubator as by a sitting hen. I hope so.

THE WRIGHT BROTHERS AND THEIR FLYING-MACHINES UP TO DATE.

I can not go into details just now, because there are so many of the Wright machines, and so much is being done with them all over the world. But as we go to press, notice comes in the papers that one of their pupils has made a flight of something over 6000 feet, or over a mile in height, as you will notice. When first making their experiments, if I remember correctly, the brothers did not expect to be able to reach any great height—nothing like that reached by a gas balloon, for instance; but it now transpires they they can reach an altitude of at least a mile; and it *may* transpire there will be greater safety at a considerable distance above the earth. Perhaps we had better wait a little and see. And I predict and firmly believe we *shall* "see" with our own eyes very soon the aeroplanes gliding over our heads among the clouds.

OVER A MILE A MINUTE.

Aside from the above we learn from the *Plain Dealer* of July 11 that Leon Morane, at Rheims, has just broken the record by making a speed at the rate of a little more than 68 miles an hour. The paper does not state what aeroplane was used, but I presume it is one of the patterns of the Wright brothers.